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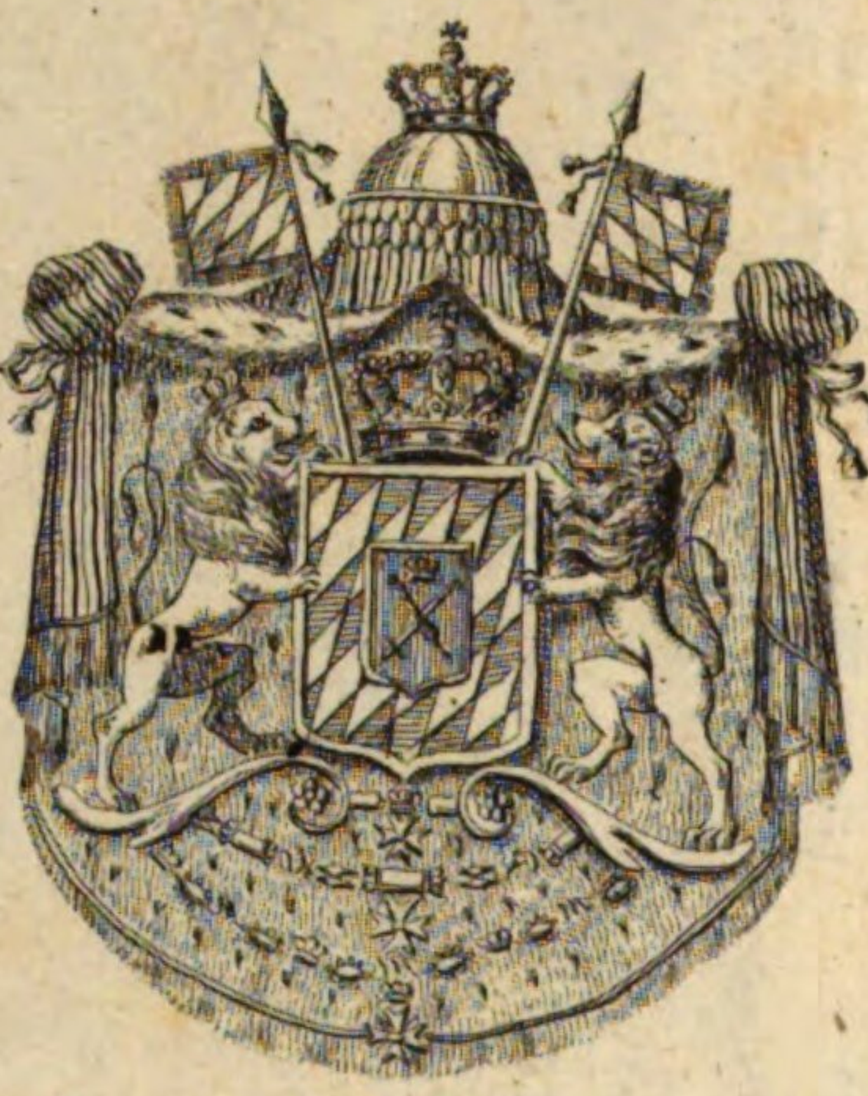

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Zoological Illustrations,

OR

ORIGINAL FIGURES AND DESCRIPTIONS

OF

NEW, RARE, OR INTERESTING

ANIMALS,

SELECTED CHIEFLY FROM THE CLASSES OF

Ornithology, Entomology, and Conchology,

AND ARRANGED ON THE PRINCIPLES OF

CUVIER AND OTHER MODERN ZOOLOGISTS.

BY

WILLIAM SWAINSON, F.R.S., F.L.S.,

MEMBER OF THE WERNERIAN SOCIETY OF EDINBURGH, ETC.

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1822-3.

BIBLIOTHECA
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TO

WILLIAM JOHN BRODERIP, Esq.

BARRISTER-AT-LAW, B.A., F.H.S.

MY DEAR SIR,

In dedicating the last volume of my Zoological Illustrations to you, I offer a tribute of regard to that friend, who has evinced the greatest interest for its success. Your zeal has encouraged its prosecution, your kindness has often watched its progress, and the few intervals of leisure which it has left me, have been brightened by your friendship. The recollection of those hours, so delightfully spent in congenial pursuits and studies, will long live in my remembrance. That such pursuits may continue to sweeten the toils of a public life, and that every happiness may be yours, is the sincere wish of,

MY DEAR SIR,

Your faithful Friend,

WILLIAM SWAINSON.

Warwick, October 8th, 1823.

PREFACE.

In concluding the last volume of these Illustrations, I may be allowed to express the satisfaction I feel, at the favourable manner in which the work has been received, both in this country and on the continent.

Several objections have been urged, even by sensible writers, against miscellaneous works on Zoology. First, that they range over the whole animal kingdom, without completing the history of any one tribe. Secondly, that their authors, while professing to illustrate only what is new or little known, intrude a large proportion of subjects to be found in all the common natural histories. And thirdly, that this rapid mode of publishing new discoveries, is an infringement on the right, and is detrimental to the labours, of those naturalists who direct their attention to one particular branch. These objections, however, are not unanswerable; for, in the first place, these miscellanies should more properly be considered as graphic illustrations, or collections of figures, wherein the efforts of the artist, aided by scientific knowledge, are called forth, to complete, by his pencil, the more minute and detailed descriptions which should proceed from the pen of the monographer. The most perfect works in the science are undoubtedly those which unite the labours of both; but, in proportion as this perfection is attained, the general utility of such works is diminished. They become so enormously expensive, that they are only to be seen in universities and princely libraries; for the most part inaccessible to the naturalist, and nearly unknown to the public at large. The works of Le Vaillant, Desmarest, Vieillot, Ferussac, and several others, published in France and Germany, are of this description; and while in one sense they have

considerably benefitted the science, they have in another proved very detrimental to its general diffusion. No sensible naturalist will risk his fame, by giving his observations to the world, without knowing what has been done by those who have preceded him;—until, in fact, he has proper materials to work upon. He knows that these sumptuous authors should be consulted; he has not the means of so doing; and he relinquishes his purpose in despair. Such has been the result in two or three instances which I could mention: and the power of materially extending the bounds of science is thus confined to those favoured few, who are so fortunate as to possess, or to have the power of consulting, those splendid publications.

The second objection is well grounded; but in whatever degree it may apply elsewhere, I trust the following pages will evince my anxiety to render the work replete with subjects hitherto unknown or unrecorded; and my own collections, in most cases, have given me ample means for examining and comparing both the genera and species of nearly all the subjects I have attempted to illustrate.

In several instances my opinions will be found to differ from those of many celebrated naturalists of the day; but I have endeavoured to put the reader in possession of the reasons which have led to the conclusions I have adopted. This is but justice towards those who have preceded me, and to the great body of naturalists, by whom such questions will ultimately be decided. The age is past wherein the *ipse dixit* of a great name was enough to check all inquiries after truth. Assertions must now be proved before they are admitted: and those writers who lay before the public tribunal of science their facts, their arguments, and their deductions, can alone hope to have their opinions generally adopted.

The third and last objection is as new as it is singular; and has been urged against Miscellanies in general by an

anonymous French writer.* However an author may feel annoyance or disappointment, that another should be the first to publish discoveries, which *he* fancies belong exclusively to himself, he surely has no title to complain. The field of Nature is open to the inquiries of all. In her domain there are not yet established any *scientific preserves*.† If occupation or indolence does not permit *one* labourer to make known his discoveries, is *another* (who perhaps unconsciously has been working on the same ground) to hide the knowledge *he* has gained? This is surely a principle at once illiberal and unjust. At this time, there is not perhaps a single department of Zoology which is not employing the attention of more than one writer. It is to the honour, and to the lasting benefit of science, that it should be so: and although a great part of the new objects collected during my travels in Europe and Brazil have recently been made public by MM. Temminck and Godart, I feel rejoiced that this has been done by such distinguished men.

I have been induced to enter (perhaps too fully) into a general defence of Zoological miscellanies, from the opinion I entertain of their great utility. First, in diffusing a general knowledge, and exciting a taste for such pursuits among the great mass of readers; and secondly, as being a prompt and interesting channel of communicating new discoveries to the scientific world. Their periodical appearances and comparative cheapness renders them of easy access to the student;

* "Pendant que les naturalistes font des monographies, des ouvrages généraux où la synonymie, les coupes systématiques sont, à force de temps et de soins, établies avec rigueur, les auteurs des miscellanées, avec quelques phrases et des noms nouveaux, font des genres ou des espèces, et publient 50 cahiers dans lesquels les fruits de dix ans de recherches ou de voyages sont enlevés à leurs auteurs. (F.)"—*Bulletin des Annonces et des Nouvelles Scientifiques; publié sous la direction de M. le B. de Ferussac. N. 4. p.* 53.

† See the Sketch Book of G. Crayon, vol. i. p. 130.

and, if well conducted, they unite all that is essential from the pen and the pencil.

Several foreign journals have noticed the appearance of these Illustrations, and generally in such terms as to stamp a value on their contents. One of these, however,* contains several misrepresentations, which have doubtless escaped the notice of the editor; and which, therefore, it may be as well to explain in this place. The writer in this journal, while noticing my Illustrations, seems to have mixed up with it criticisms intended for another periodical miscellany,† to which this has, perhaps, given birth, and which professes to be on a similar plan. He states that these Illustrations are to be completed in sixty numbers, making five volumes. No such declaration, to my knowledge, has ever been made, although such is the averred plan of the Naturalist's Repository. The reviewer goes on to state: " Il suit pour l'Entomologie et la Conchologie la classification surannée de Linnæus." This is not a very respectful mode of speaking of the labours of the greatest naturalist whom his age produced; but the proposition is a total mistake; the charge is refuted by almost every page of my work; and, what is rather extraordinary, by the very quotations of the reviewer. In reply to the regret expressed, " que l'auteur n'indique pas toujours les ouvrages les plus récens," I should have been thankful had he subjoined what works these were; as I do not find, in the monthly lists of the *Bulletin,* any one which I have not consulted or referred to, if connected with the objects here described.‡ M. de Ferussac's work has been regularly cited,

* Bulletin des Annonces et des Nouvelles Scientifiques, N. 6. p. 438.

† Donovan's Naturalist's Repository.

‡ The additional list of synonyms subjoined at the end of this volume almost entirely refer to one or two books which have been subsequently published: the date of 1822, affixed to the seventh volume of Lamarck's *H. N. des Animaux sans Vertèbres,* is considerably before the time it was issued to the public.

but his *Prodromus* I have never been able to procure, either in England or Paris.

And here I cannot refrain from adverting to the great number of Zoological publications which have appeared in this country during the last three years; a number far exceeding in proportion that of any period in the annals of the science. Dr. Horsfield has commenced a beautiful work on the Animals of Java; and Mr. Sowerby is prosecuting his Genera of Shells with much zeal, and with increased ability. Both these appear periodically. They are conducted on the modern principles of science, and do credit to their authors. The Naturalist's Repository, before alluded to, likewise appears monthly, but is carried on according to the Linnæan system, pure and unadulterated. All these, however, unite in showing how rapidly the taste for such works has increased. Added to these, a new quarterly Journal, exclusively devoted to Zoology, has been announced, and, if conducted on liberal principles, its utility will be very great.

But nothing, perhaps, has more fully evinced the state of public feeling on this point among men of enlightened minds, than the discussions which have arisen on the present state of the British Museum. It is a subject on which I might be tempted to say much, did I not feel, that among those who do not know me, I might be suspected of interested or unworthy motives. But from the retirement of a country life, I may now be allowed perhaps to say a few words. It is indeed most true, that, in the Zoological department, this institution is a full century behind the rest of Europe; I might almost add, of America. But the fault is deep-rooted; and does not spring from the person (whoever he may be) to whom this overwhelming charge is given. It is ridiculous to suppose that the exertions of any one person (however great his talents, his zeal, and his assiduity,) are sufficient to discharge the duties of so complicated

an office. Such a supposition implies the expectation of a moral impossibility; and so long as such a Herculean task is allotted him, so long will the Museum continue, with little alteration, in its present state. Where we have *one* Zoologist, the museums of Paris, Berlin, and Vienna have many; each is charged with the care of one particular branch; and, by their united efforts, the whole is displayed to the examination of the scientific, and to the view of the public. Each professor has thus leisure to prosecute the most important objects of his duty; *i. e.* to examine, compare, and describe, to detect analogies, to investigate affinities, and to give to the world the fruits of his studies. To France more particularly this honour is due. And what has been the result? Why, that Paris has become the Zoological university of Europe; and that the principles which have emanated from it, are now considered the only true ones by which Nature is to be studied.

It is not my object to attach reproach to any body of men collectively, or to any one individually; but truth is not to be concealed. Every writer who has the advancement of his favourite study at heart, is bound (however feebly) to advocate its cause. The truth of the preceding remarks cannot be questioned; and it remains with those in power, to consider well, whether such a state of things is consistent with the honour and reputation of the country; with the justice due to those great men who founded the institution; and to the expectations of the public, by whom it is supported.

Warwick, October, 1823.

AMPULLARIA corrugata,

Wrinkled Apple Snail.

GENERIC CHARACTER.—See Pl. 103.

SPECIFIC CHARACTER.

A. testâ globosâ, corrugatâ, olivaceâ; spiræ prominentis, acutæ, anfractibus ventricosis; aperturæ margine crasso, fulvo, sulcato; umbilico parvo, juxta labii interioris mediam posito; operculo testaceo.

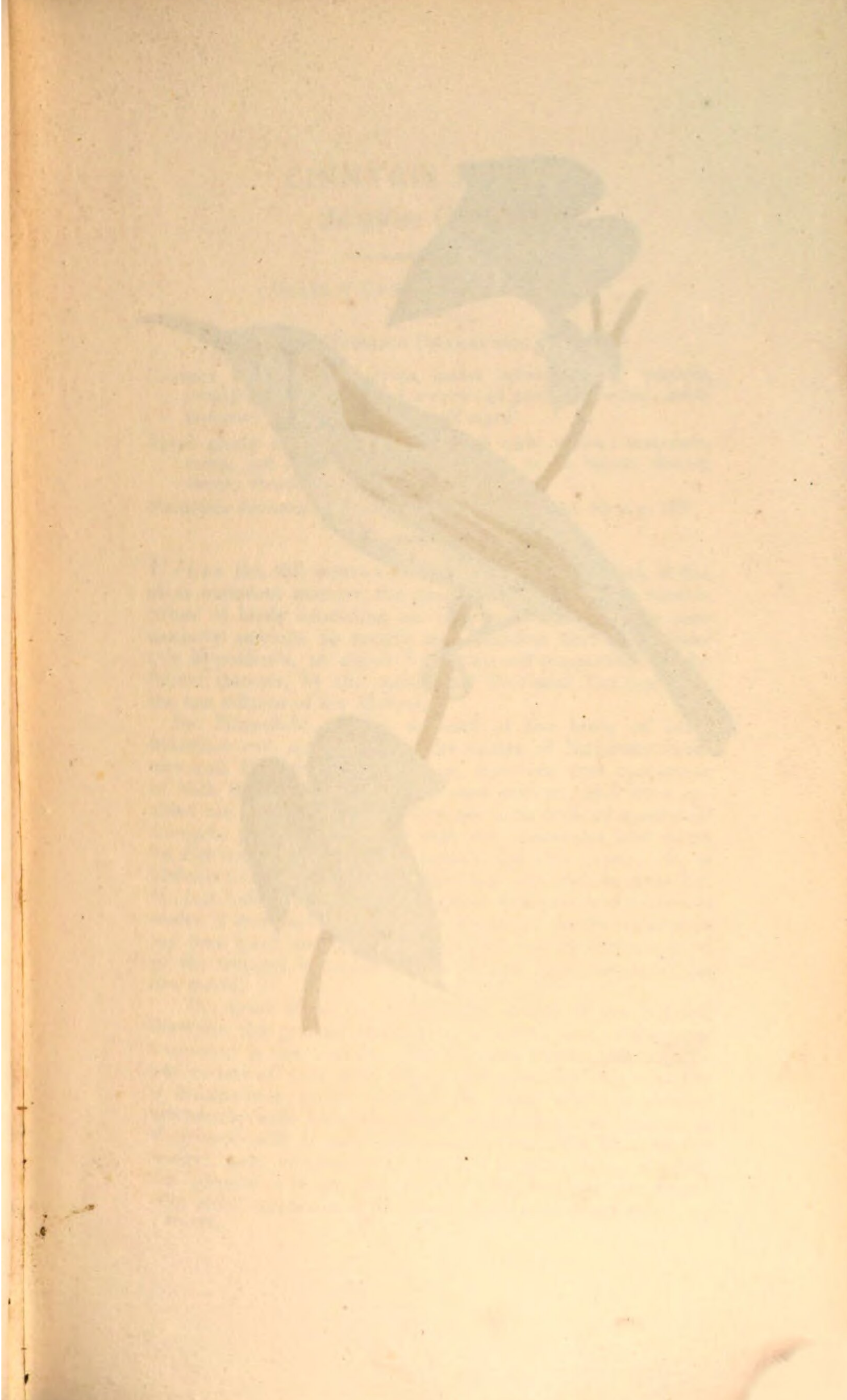
Shell globose, wrinkled, olive; spire prominent, acute, the whorls ventricose; margin of the aperture thick, fulvous, grooved; umbilicus small, linear, near the middle of the inner lip; operculum shelly.

Helix Ampullacea. *Linn. Gmelin, p.* 3626.
Ampullaria rugosa. *Sowerby, Genera of Shells, fas.* 4. *fig.* 1. 2.

THE annexed figures of this hitherto undefined species will clearly show its distinction from *Amp. globosa,* (pl. 119); and the specific characters now framed for these two shells, will, I think, sufficiently distinguish them from each other.

In comparison with *A. globosa*, this (even in the young state) is a wrinkled, not a smooth shell, having the umbilicus placed near the middle, not towards the base, of the inner lip: the spiral whorls are elevated and ventricose, not depressed, and slightly convex; and the basal volution, instead of being very wide on the upper part, (near the suture,) is widest only in the middle. In young shells, the wrinkles and the marginated aperture are less defined. When divested of its epidermis, the colour is blueish white, with a few narrow bands of obscure purple. A specimen in my own collection has the epidermis so thin, that the colours beneath it are very conspicuous. The mouth inside is dark chesnut, with blackish bands; the margin being pale yellow and slightly reflected. The umbilicus, both in this and in *A. globosa,* is small and contracted, while in the real *A. rugosa Lam.* (*Helix urceus Lin.*) it is very large, round, and deep. This latter shell, also, differs from both of the former, by having a thin, and not a margined aperture.

Mr. Sowerby appears the only writer who has figured this shell, which he has mistaken for the *A. rugosa* of Lamarck. I am informed by Mr. Humphreys it is a native of India.



CINNYRIS Javanica,

Javanese Creeper.

GENERIC CHARACTER. — See Pl. 95.

SPECIFIC CHARACTER.

C. supra nitidè purpureo-ærata, subtus olivaceo-crocea; scapulis, uropygio, strigâque laterali a rostro ad pectus descendente nitidè violaceis; jugulo castaneo; caudâ nigrâ.

Above glossy metallic purple; beneath olive yellow; scapulars, rump, and lateral stripe from the bill to the breast, shining violet; throat chesnut; tail black.

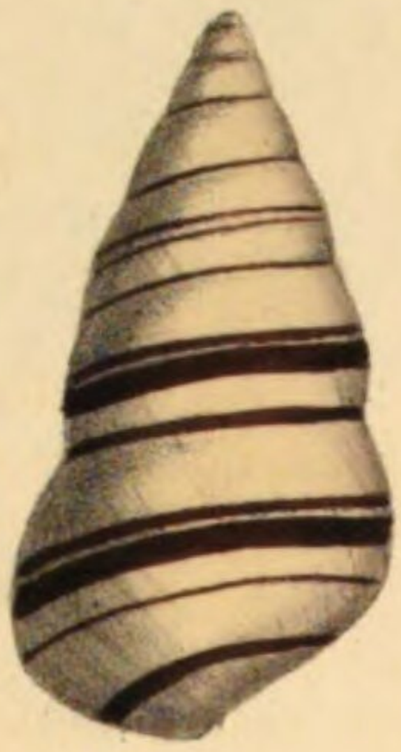
Nectarinia Javanica. *Horsefield in Linn. Tran. vol.* 13. i. *p.* 167.

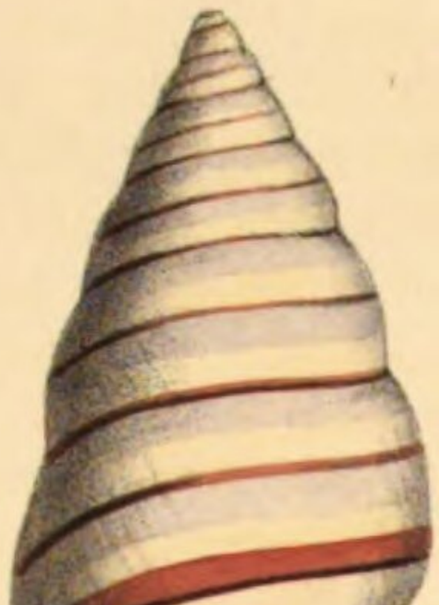
UNDER the full conviction that nature has defined, in the most complete manner, the geographic limits of the various tribes of birds subsisting on vegetable juices, I am particularly anxious to rectify any mistakes that may shake this hypothesis, in which I find myself supported, in the fullest manner, by the opinion of Professor Temminck, in the last edition of his *Manuel.*

Dr. Horsefield, in his account of the birds of Java, describes two species under the names of *Nectarinia Javanica* and *Pectoralis.* It happens, however, that specimens of both these birds are in my own cabinet, and have enabled me to ascertain that they are both decided species of *Cinnyris,* perfectly agreeing with the characters laid down by Cuvier, Temminck, and myself, for this group. It is difficult to say how this oversight has occurred, because Dr. H., just before, introduces the genus *Cinnyris,* and describes under it two new species. In short, no doubt remains in my own mind, that *Cinnyris* is a genus as strictly confined to the tropical latitudes of the *old,* as *Nectarinia* is to the *new* world.

The figure is the size of life; the outline of the bill will illustrate the generic characters, of which one of the most important is the nostrils. Nothing can exceed the richness and variety of tints with which this splendid little creature is ornamented; particularly on the head, which is glossed alternately with lilac, sea-green, and violet, and appears as if covered with some metallic substance; the blue on the wings, back, and edges of the tail is very deep, shining, and glossed with purple; all the wing-feathers are edged with olive, and some of the lesser quills with chesnut.

Pl. 121.





ACHATINA virginea, *var.*

Common Striped Achatina, *var.* 2 *and* 3.

GENERIC CHARACTER. — See Pl. 30.

SPECIFIC CHARACTER.

A. testâ elongatâ, fasciis numerosis nigris, viridibus et flavis ornatâ; anfractûs basalis latitudine altitudinem superante; aperturâ rotundatâ; labio exteriore integro; basi profundè emarginatâ.
Var. 2. *testâ fasciis fuscis ornatâ; labio interiore albo.*
Var. 3. *testâ fasciis rufis ornatâ; labio interiore roseo.*

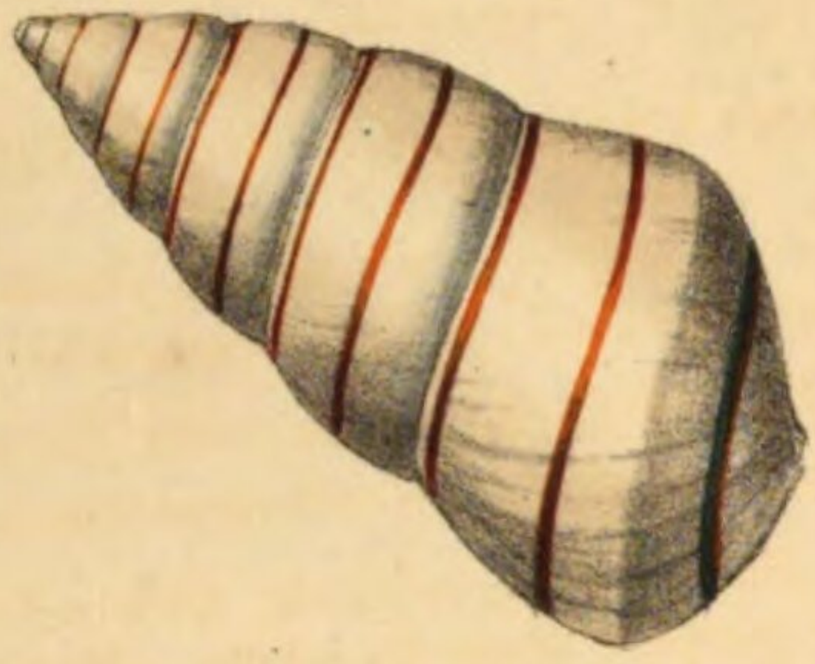
Shell elongated, with crowded bands of black, green, and yellow; basal volution broader than high; aperture rounded; outer lip entire; base deeply notched.

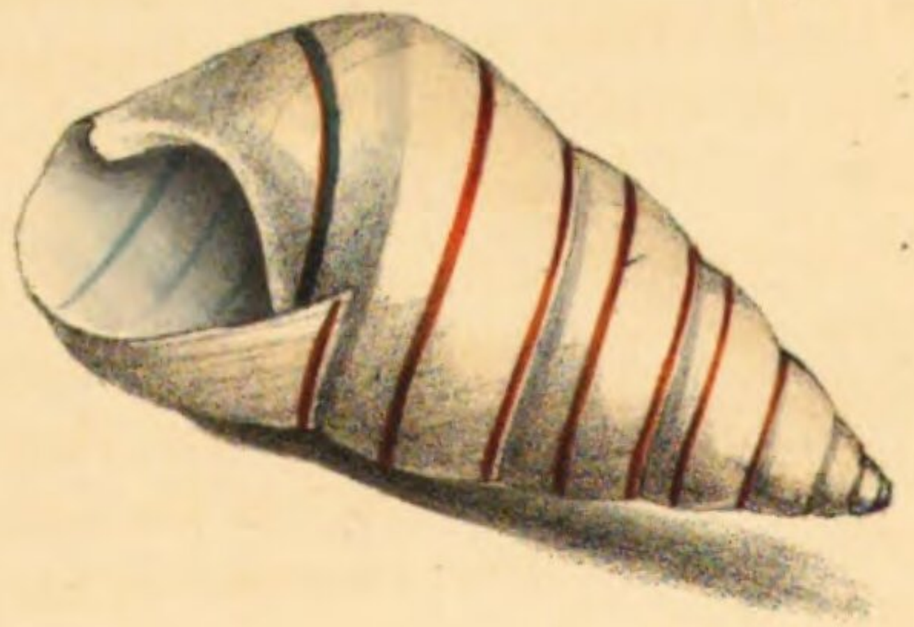
Bulla virginea. *Gm.* 3429. *Chemnitz*, 9. *t.* 117. *f.* 1000, 1. *Dill.* 491.
Bulimus virgineus. *Brug. p.* 363.—*Lister*, 15. 10. *Seba*, *t.* 40. *f.* 38. *Ferrusac*, *pl.* 120. *f.* 3, 4, 5.

Var. 2. Shell banded with brown; inner lip white.
Ferrusac, *t.* 120. *f.* 2.
Var. 3. Shell banded with rufous; inner lip rosy. *Chemnitz*, 10. 173. *f.* 1682, 1683, *(reversed.)*

THE shell generally known as the *Ach. virginea* (*Bulla virginea Lin.*) is so common, that few collectors do not possess it. The varieties, however, of this species are rare, and differ so remarkably in their colouring, as to require illustration. Several kindred species of this family I have already described; and on the same principle of establishing specific distinctions from formation instead of colour, I shall now endeavour to point out those characters which are common, more or less, to all the varieties of this species, and which distinguish it from its allies. *A. virginea* may be known by the comparative shortness of the basal whorl, which in general is broader than high; the margin of the outer lip is entire, and sloping in an oblique direction; the aperture is wide, and nearly round; the lower part of the columella takes a concave direction, and between its base and that of the outer lip is a very deep notch. The basal whorl is so broad that the shell, if placed on a table with its mouth downwards, will remain erect.

Both these and the two next varieties are in Mr. Dubois' cabinet. Their locality is unknown; but my young friend, Mr. Frederick Parkes, has recently sent me shells of the common variety, found by himself near Kingston, Jamaica.





ACHATINA virginea, *var.* 3 *and* 4.

GENERIC CHARACTER. — See Pl. 30.

SPECIFIC CHARACTER. — See Pl. 122.

A. virginea, var. 3. *testâ ampliore, albescente, fasciis rufis nigrisque ornatâ; aperturâ purpureâ; labio interiore albo.*

Var. 4. *testâ ampliore, albâ, fasciis* 3 *angustis, fuscis ornatâ; aperturâ labioque interiore albis; anfractu basali medio subcarinato.*

A. virginea, var. 3. Shell larger, whitish, with rufous and black bands, aperture purple; inner lip white. *Middle figures.*

Var. 4. Shell larger, white, with three narrow brown bands; aperture and inner lip white; basal whorl in the middle slightly carinated. *Upper and lower figures.*

THE two varieties of *A. virginea* on this plate, are still more removed from the type of the species than those last figured; they are both much larger in size, and var. 4 presents a slight difference of formation, in having the basal volution somewhat carinated round the middle; but as in every other essential character it agrees with the rest, I have refrained from separating it as a distinct species.

The four varieties I have now illustrated of *Ach. virginea*, tend to establish, in a very complete manner, the correctness of the principles on which I have framed the specific characters of this genus; here are four shells, with a total difference in the colouring of each, yet all agreeing in the same formation. It should be observed likewise, that *A. pallida*, figured at pl. 41 of this work, and *A. virginea*, var. 4, are nearly the same in colour, while in formation they are completely at variance. I do not think it has been hitherto remarked, that the elegant green lines which ornament the common variety, are only *external;* they resemble, in this respect, the epidermis of other shells, for they may be taken off by a knife without any injury to the enamel. M. Ferrusac has figured several other varieties in his beautiful work on Land Shells.

124.

LICINIA Crisia.

GENERIC CHARACTER. — See Pl. 15.

SPECIFIC CHARACTER.

A. mas. Alis anticis falcato-acuminatis, fuscis, fasciâ mediâ margineque postico flavo; posticis infra flavescentibus colore griseo variis, basi maculis 4 fulvis.

Fem. Alis infra albentibus colore griseo variis; anticis integris, supra fuscis, fasciâ mediâ margineque postico albentibus; posticarum basi maculis 4 fulvis.

Male. Anterior wings angulated, brown, with a central band and hind margin yellow; posterior beneath yellowish marbled with grey, base with 4 fulvous spots.

Female. Anterior wings entire, above brown, with a central band and hind margin whitish; all the wings beneath whitish marbled with grey; base of the posterior with 4 fulvous spots.

Pieris Crisia. *Godart. En. Méth. p.* 197. *Male. Drury, v.* 3. *pl.* 37. *f.* 1. 2?

THE extraordinary difference existing between the sexes of exotic Lepidoptera, and particularly among the Butterflies, (*Papilionidæ* Lin.) is a subject which hitherto has received but little attention; nor am I aware of any entomological writer who has described those characters which absolutely distinguish the sexes: characters which, I am persuaded, will hereafter be found of the first importance in a natural arrangement of these insects. But in the prosecution of this desirable object, the naturalist, as far as regards foreign Lepidoptera, will have to encounter serious obstacles; many individuals must be examined of each species, and some of these dissected. It falls to the lot of few to pursue their inquiries in the native regions of these insects. Collections in this country are very few, and some of these are not always open to the scientific labourer; neither can specimens be sacrificed for dissection, where there are not more than two or three individuals of a species.

This is in general a very rare insect; observed for the first time by Dr. Langsdorff and myself early in June (the tropical autumn), in a wood adjoining the Organ Mountains at Rio de Janeiro. From its local abundance, we were able to ascertain the sexes. The two upper figures are of the male, and the lower of the female insect.

PAPILIO Nireus.

GENERIC CHARACTER.—See Pl. 92.

SPECIFIC CHARACTER.

P. (*Gr. Ecaud.*) *Alis nigris, fasciâ communi maculisque viridibus; posticis dentatis breviter caudatis; his subtùs fasciâ subargentea, marginali, nervis divisâ.* Godart.

P. (Gr. Ecaud.) Wings black, with spots and a common band of green; posterior wings dentated, obsoletely tailed, beneath with a silvery marginal band, divided by the nerves.

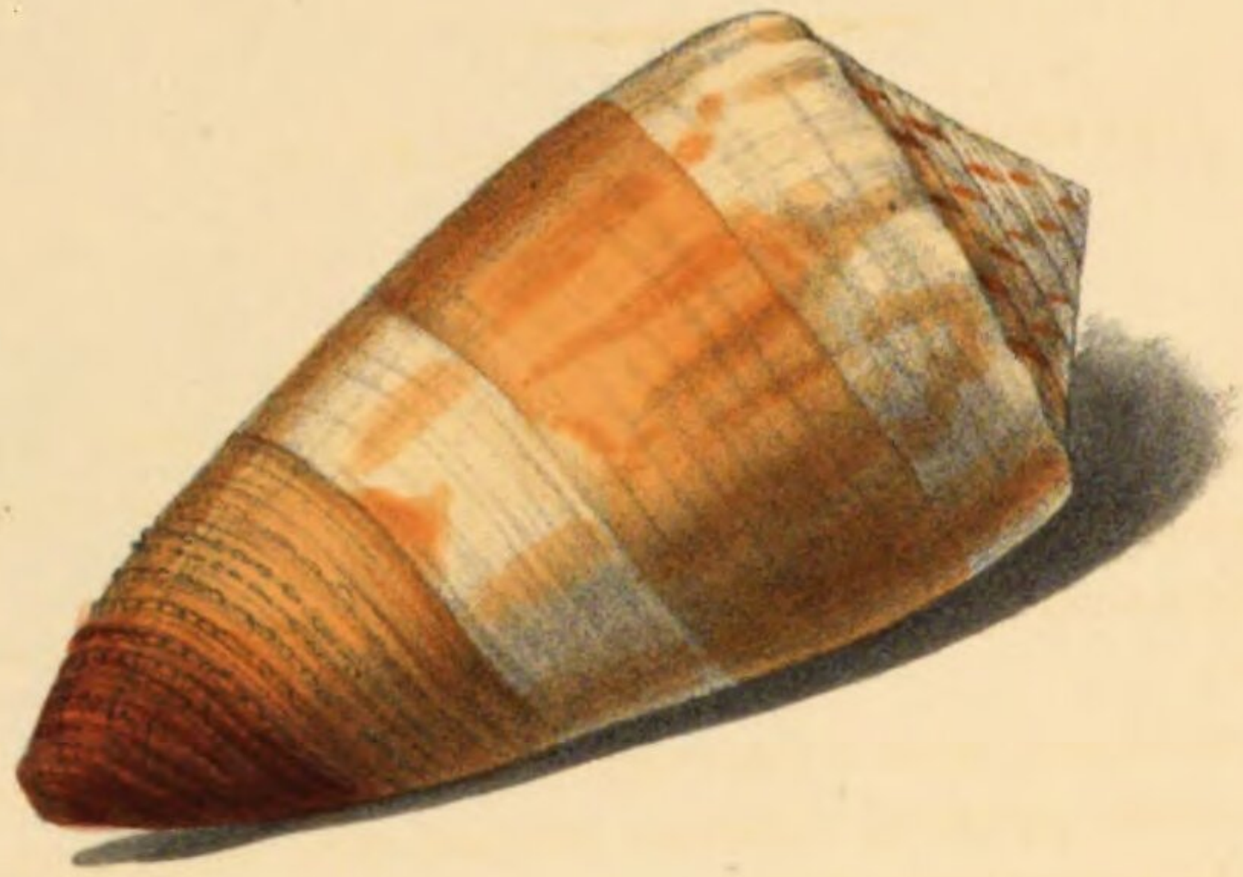
P. Nireus. *Fab. Sys. Ent.* 3. *p.* 36. *Godart Ency. Méth.* 9. 1. *p.* 48. *Drury* 2. *pl.* 4. *fig.* 1. 2. *Cramer, p.* 187. A.B. (*mas.*) *pl.* 378. F.G. (*fem.*)

I HAVE figured this insect, principally because it will fully illustrate the first section (*a.*) in the arrangement of this beautiful family proposed at plate 92. The two divisions there adopted, after the manner of Linnæus, (*Græci* et *Trojani*) I am fully aware, are purely artificial; but the facility this distribution will give to the student, in searching after a particular species, is so obvious, that it need hardly be pointed out.

I have only had the opportunity of examining the individual from which the figure was taken. It is a male, having the anal valves rather lengthened and obtuse, with a small hook between them, which projects from the last segment of the abdomen. This circumstance proves the error of Cramer, in having mistaken the sexes of this species, both of which he seems to have figured. That which I apprehend is the female (Cramer, pl. 378, fig. F.G.) I have not myself seen. The blue-green on the upper surface of the wings is very resplendent and changeable, and the palpi and thorax beneath are covered with numerous whitish spots.

On the under side of the inferior wings, near their base, is a paler band, rayed with the nerves, and in some lights shining with a pale silvery reflection.

Mr. Smeathman sent this species from Sierra Leone, in Africa, to Mr. Drury. The locality, therefore, of India, given by Linnæus and Fabricius, must be incorrect.



CONUS vitulinus, *var.*

Orange Fox Cone,

Brown-tipp'd variety.

GENERIC CHARACTER.—See Pl. 65.

SPECIFIC CHARACTER.

C. testâ fulvâ seu fuscâ, fasciis 2 interruptis ornatâ; spiræ brevis, levatæ, conicæ, maculatæ anfractibus concavis, subgranosè striatis; basi granosâ, albâ.

Var. testâ flavescente, fasciis obscuris, subalbidis ornatâ; basi rufâ. (*Fig. nos.*)

Shell fulvous or brown, with 2 interrupted white bands; spire short, elevated, conic, spotted, volutions concave with subgranulated striæ; base granulated, white.

Conus vitulinus. *Brug. p.* 648. *Lamarck. Ann.* 15. *p.* 265. *Knorr. vol.* 5. *tab.* 1. *fig.* 4 (*optimè*). *Dillwyn* 377.

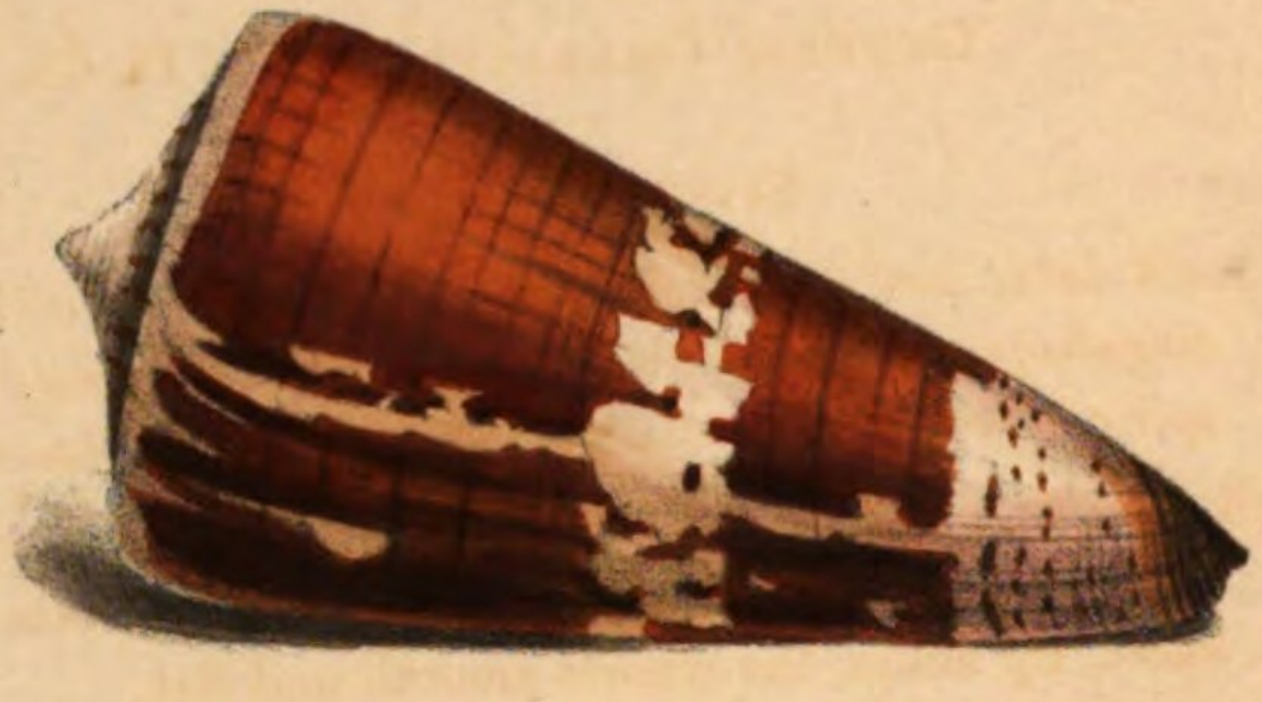
Var. Shell yellowish, with obscure whitish bands; the base rufous.

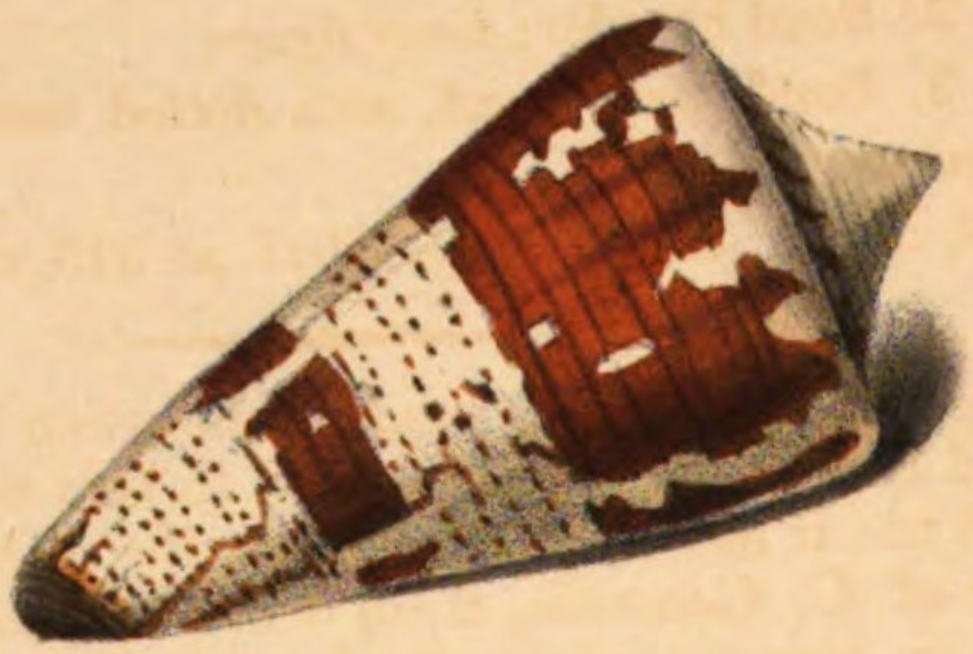
I RECEIVED this very uncommon shell from the Island of Amboyna; and although in size and colour it is widely different from the usual appearance of *C. vitulinus*, I have no hesitation in considering it as a remarkable variety only of that species.

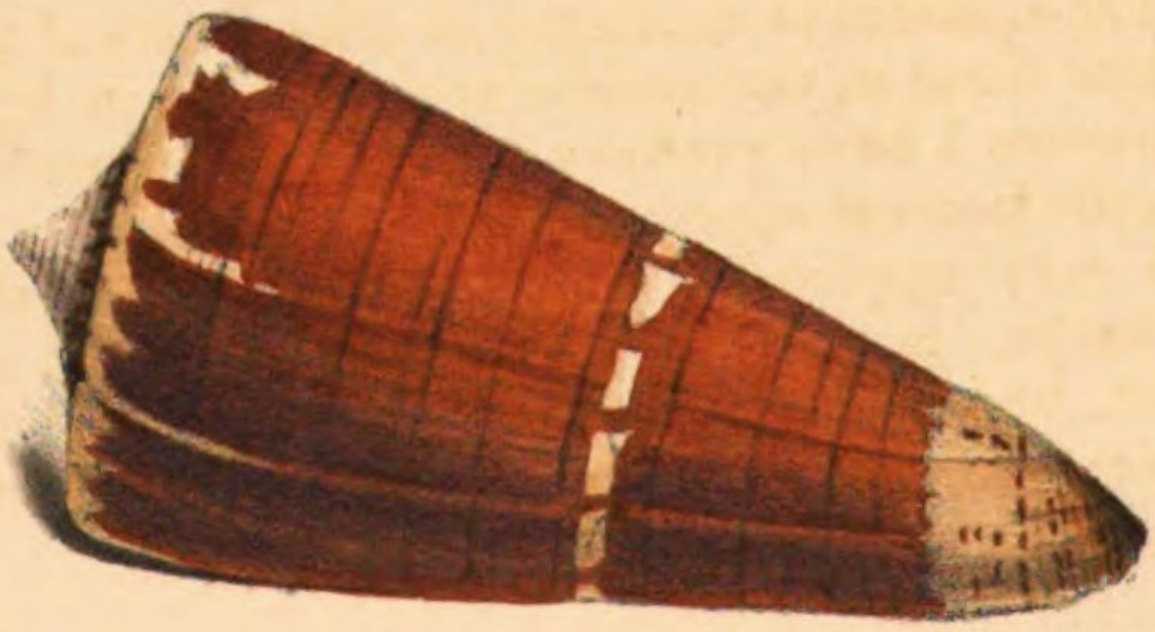
C. vitulinus in general is a small shell. The best representation of it I have seen is given by Knorr; an author not in general very accurate in his figures. It varies considerably in colour, and approaches very near to *C. vulpinus Lam.* from which it principally differs in having an elevated, though short, spire, instead of one nearly flat: the base is granulated, and generally white; *C. vulpinus* also has the body whorl carinated and thickest round the upper margin, whereas, in *Vitulinus*, it is gently swelled in the middle.

M. Lamarck is, I think, mistaken in the synonyms of this shell, which is represented in the *Ency. Méth.* plate 326, fig. 204. The shell at fig. 8. appears to me as the granulated variety of *C. vulpinus*.

Inhabits the Asiatic Ocean.







CONUS Maldivus,
Spanish Admiral Cone.

GENERIC CHARACTER.—See Pl. 65.

SPECIFIC CHARACTER.

C. testâ lævi, posticè gracili ferrugineâ, maculis albis subtrigonis, cingulisque numerosis fuscis, albo punctatis, ornatâ; basi nigrâ; spiræ brevis apice acuto, anfractibus lævibus, planis.

Shell smooth, posterior end slender, ferruginous, with angular white spots, and white bands dotted with brown; base black; spire short, tip acute, the whorls smooth and flat.

C. Maldivus. *Brug.* (1789.) *p.* 644. *Lam. Ann. v.* 15. *p.* 264.
C. Jaspideus. *Humphreys in Mus. Cal.* (1797) *p.* 12. *No.* 185.
Conus Generalis. *Var.* B. *Dillwyn.* 539. 11.

Var. 1. Band in the middle narrow; *upper figure. Ency. Méth.* pl. 325. fig. 6.
Var. 2. Band broader; *lower figure.*
Var. 3. Band very broad, with dotted transverse lines; *middle figure.*

Seba. pl. 54. *fig.* 11. 12. *Ency. Méth. pl.* 325. *fig.* 5. 7.

THE general similarity existing between the Spanish Admiral, and two other cones, figured in this work, I have before alluded to; it has been placed by the Linnæan writers as a variety of *C. Generalis,* from which, however, it invariably differs, in being a much thicker shell, with a shorter spire, and the whorls without any concavity. The colour of the two species varies considerably in different individuals, but *C. Maldivus* is always destitute of the dark brown longitudinal stripes at the top of the body whorl, peculiar to *C. Generalis;* the white bands are either broken into somewhat triangular spots, or are banded with minute dots; these triangular white spots are sometimes scattered in other parts of the shell, and the white band in the middle varies much in breadth; of all the varieties I have yet seen, the middle figure is that which makes the nearest approach to *C. Generalis.*

The very applicable name given to this shell by Mr. Humphreys, in the *Museum Calonnianum,* I should have adopted, had not Bruguiere previously affixed to it that of *Maldivus,* as being a native of the Maldivian Islands.

CONUS Maldivus,
Spanish Admiral Cone.

CONUS Maldivus, *var.*

Spanish Admiral Cone,

Chesnut variety.

GENERIC CHARACTER.—See Pl. 65.

SPECIFIC CHARACTER. — See Pl. 127.

Conus Maldivus. Var. B. *testâ castaneâ, fasciâ albescente mediâ angustâ ornatâ; anfractûs basalis basi et margine albis.*

Var. B. Chesnut, with a narrow whitish band in the middle; base and margin of the body whorl white.

As a further illustration of the last plate, I have been induced to figure this very rare variety, from a specimen I met with at Mrs. Mawe's. In the disposition of its markings, it approaches near to the shell represented in the *Ency. Méth. plate* 325, *f.* 6, but the white band in the middle is narrower, and quite destitute of the circular dotted lines there expressed.

No shells require a greater accuracy of delineation than the Cones, particularly in expressing the peculiarity in the form and sculpture of their spires. I am well persuaded that a great number of the mistakes committed by authors have originated in the wretched figures contained in Favanne's work, and in the early volumes of Martini. Those of Favanne are generally so loose and inaccurate, (although remarkably well engraved,) that I do not wish, by quoting, to make them any authority; and most of the Cones figured by Martini are equally bad.

Bruguiere and Lamarck have both given the character of *spirâ canaliculatâ* to this species, which is altogether a mistake. The spiral whorls are all *but* perfectly flat, and the suture is quite closed up, although sometimes uneven; originating, as in many other shells, either from the inequalities of growth, or from an accidental sea-break, which the animal may have repaired.

MELLIPHAGA torquata,
White-collared Honeysucker.

GENERIC CHARACTER. — See Pl. 43.

SPECIFIC CHARACTER.

M. olivaceo-fulvâ, infra albâ; capite auribusque nigris; torque nuchali lunato, albo; superciliorum cute rubrâ.

Fulvous olive, beneath white; head and ears black; nape with a white crescent, skin of the eyebrows red.

Black-crowned Honeysucker. *Lewin's Birds of N. Holland, pl.* 24.

AN elegant, though not a richly coloured bird; remarkable for the bright red of the skin above the eyes, and the milk-white collar at the back of the head. It is from New Holland, and, like others of its tribe, derives its nourishment chiefly from the nectar of flowers; as more particularly mentioned in my first observations on this genus at pl. 43.

The figure is of the natural size: excepting the crown and sides of the head (which are deep black), the whole upper plumage is olive yellow: the shoulders, quills, and tail brown; the two latter margined with olive, but the exterior quills with white: the throat, breast, and collar round the nape pure white; skin of the eyebrows red.

The Lunated Creeper of Dr. Shaw (*Le Fuscalben of Vieillot, Certh. pl.* 61. *p.* 122.) is, I apprehend, a distinct species. It is described as being *cinnamon brown* above, with a bright red spot of *feathers behind* the eye. In the temperate climate of New Holland, that variation from the usual colouring of particular species, so frequent in tropical birds, is seldom met with; neither can these two birds be sexes of one species, because Lewin, who wrote on the spot, particularly remarks that the female of this is like the male; he further adds, it is found near Paramatta, and the Hawkesbury river, in thick bushy woods.

Lewin's figure is so excellent, that I should not again have represented this bird, had not the plate been prepared previous to the publication of his work. The outline figure of the bill will show more clearly the uncommon length of the nostrils, a character which is peculiar to this genus.

MELLIPHAGA, torquata,
White-collared Honeysucker.

Generic Character.—See Pl. 43

Specific Character.

M. olivaceo-fusca, infra nitid: capite cervicaque nigris; torque

Palvous olive, beneath white; head and ears black, edged with a white crescent; skin of the cheeks red.

Black-crowned Honeysucker. *Latham's Gleanings, pl. 24.*

As elegant, though not so gaudy and showy a bird; remarkable for the bright red colour of the eyes, and the pure white collar at the back of the head. It is from New Holland, and, like others of this genus, is remarkably intelligent, the species frequently displaying a very particularly mentioned in my first volume (see Pl. 43).

The figure given in the present plate, both of the cock and hen, is from specimens in the collection of Mr. Leadbeater, who has kept them for several years in a large cage, in which they have bred. The cock is in full plumage, and the hen in her usual dress; the latter, however, is rather more olive than in a wild state, and the bill will show more clearly the uncommon length of the nostrils, a character which is peculiar to this genus.

Pl. 129.

TROCHILUS latipennis,

Grey Sickle-winged Humming Bird,

Male and Female.

GENERIC CHARACTER.—See Pl. 82.

SPECIFIC CHARACTER.

T. viridi-aureus, subtus canus; remigum primorum (in maribus) scapis dilatato-incurvatis; rectricium pennis 4 mediis viridibus apice nigro, lateralibus albis basi nigrâ; rostro vix recto.

Golden-green, beneath grey; greater quills (in the male) with the shafts dilated and incurved. Four middle tail-feathers green tipped with black, lateral feathers white with a black base; bill nearly straight.

T. latipennis. *Lath. In. Orn.* 1. *p.* 310. *Gen. Zool.* 8. 1. 318.
T. campylopterus. *Gm. Sys. Nat.* 499. *n.* 65.
L'O. mouche à larges tuyaux. *Vieillot Ois. D'or. p.* 21. *p.* 59.
Broad-shafted H. Bird. *Lath. Syn. v.* 2. *p.* 765. *Gen. Zool.* 8. 318.

THE opinion I expressed on the unusual formation of the wings in two species of Humming-birds, figured at pl. 83 and 107, appears to receive the fullest confirmation from the birds here represented. One of these (pl. 131) is clearly the *T. latipennis*, or Broad-shafted Humming-bird of authors; while the other presents not the slightest difference except in the shafts of the quills, which, instead of being thickened and dilated, are of the ordinary size.

Not having myself dissected these birds, I cannot decidedly say they are male and female; but I think no reasonable doubt can remain that such is the fact, and that these singular quill-feathers are characteristic only of the male sex.

Both the birds are represented the size of life, and may be included in one description: the upper plumage obscure blueish green, glossed with a coppery or golden tinge and shaded with brown, the plumage beneath entirely grey; ears and sides of the neck the same, the latter with some spots of greenish. Tail large, even, and broad; the two middle feathers green, tipt (in the male) with blackish; the next pair black, with the base green, and the extreme points whitish; the remainder black, with their ends more or less white. Wings violet brown, the shafts of the three outer quills, in the male, dilated and compressed, but simple in the female. Said to inhabit Cayenne. Although the bill of this species is all but straight, it belongs naturally to the curved-bill division.

Pl. 130, 131.

MACROGLOSSUM annulosum,

Upper figure.

GENERIC CHARACTER. — See Pl. 64.

SPECIFIC CHARACTER.

M. alis nigris, anticis fasciis 2 hyalinè maculatis ornatis; abdominis nigri, segmento tertio niveo.

Wings black, anterior with two bands of hyaline spots; abdomen black, the third segment snowy.

AN elegant insect; so closely allied to *Sphinx Tantalus*, *Lin.* (*Drury, v.* 1. *pl.* 26. *f.* 5.) as to excite a doubt if it should be considered as a separate species. Drury's figure and description, however, of that insect, induce me to think they are most probably distinct. *S. Tantalus* is without the two bands of hyaline spots, and is much smaller in size.

In this insect are three small, white, snowy dots, on the sides of the lower segments of the abdomen, and the same beneath: the anal segment is grey; with the margin, and spot in the middle, black. Inhabits Brazil, but is a rare insect.

MACROGLOSSUM fasciatum,

Lower figure.

M. alis nigricantibus, anticis fusco variis, posticis strigâ aurantiacâ centrali ornatis; thorace griseâ; corporis lateribus, maculis aurantiacis, nigris et pallidè fulvis insignibus; antennis gracilibus; unco producto.

Wings blackish, anterior variegated with brown, posterior with a central orange stripe; thorax grey, sides of the body with orange, black, and pale yellow spots; antennæ slender, hook lengthened.

Sphinx ceculus. *Cramer, pl.* 146. *f. G.*

THIS is another Brazilian species, much more frequent than the last. In Cramer, at pl. 146, g. is figured an insect under the name of *Ceculus*, which no author appears to have quoted; but which (miserably inaccurate as it is), I have no doubt the artist intended as a representation of this insect; particularly as Cramer's description, though short, is very applicable. The colours beneath are uniform dark brown; the thorax, legs, and base of the wings, whitish; near the exterior margin of the superior wings is a small white dot, and two others on each side of the middle segments of the body.

133.

THECLA Macaria,

Chesnut-spotted Hair-Streak.

GENERIC CHARACTER.—See Pl. 69.

SPECIFIC CHARACTER.

T. alis supra fuscis; anticis ad basin cæruleis, infra ferrugineis, punctis 2 mediis nigris ornatis; posticis infra castaneis, anticè pallidioribus, maculo nigro ad basin ornatis.

Wings above brown; anterior blue at the base, beneath ferruginous, with two central black spots; posterior beneath chesnut, paler on the fore part, with a black spot near the base.

I HAVE selected this insect as one of the rarest among a vast number of species of this elegant tribe, collected during my travels in Brazil. Two specimens of the male, and one of the female insect, were captured in the woods near Pernambuco, in lat. 8° 12′ S.

The male insects, in the majority of the *Hair-Streaks*, have either a velvet or eye-like spot in the middle of the anterior wings, adjoining their outer margin; these spots are without lustre, and frequently appear as if caused by being rubbed: the colours, likewise, on the upper surface of the wings in the males, generally differ from those of the females.

Wings brown; anterior, with the half next the base blue; central spot blackish, enclosing an obscure eye-like spot margined with grey, the pupil black with a white dot. Posterior wings two-tailed; exterior tail very short, interior lengthened; anal angle two-lobed, margin whitish. Anterior wings beneath, pale chesnut brown, tips chesnut; in the middle are two black dots, one of which is small; above these are three others, which form a short transverse line united to the margin. Posterior wings beneath, dark chesnut; with two central blackish dots in the middle; below are two undulated brown lines, parallel to the posterior margin; the anterior margin pale, with a large black dot near the base; anal angle, clouded with grey and tipt with a black spot: another spot is also at the base of the exterior tail. In the female, all the wings above are brown, with a pale blue base; but the under surface, except in being paler, resembles that of the male.

Pl. 133.

THECLA Macaria.

Chesnut-spotted Hair-Streak.

GENERIC CHARACTER.—See Pl. 119.

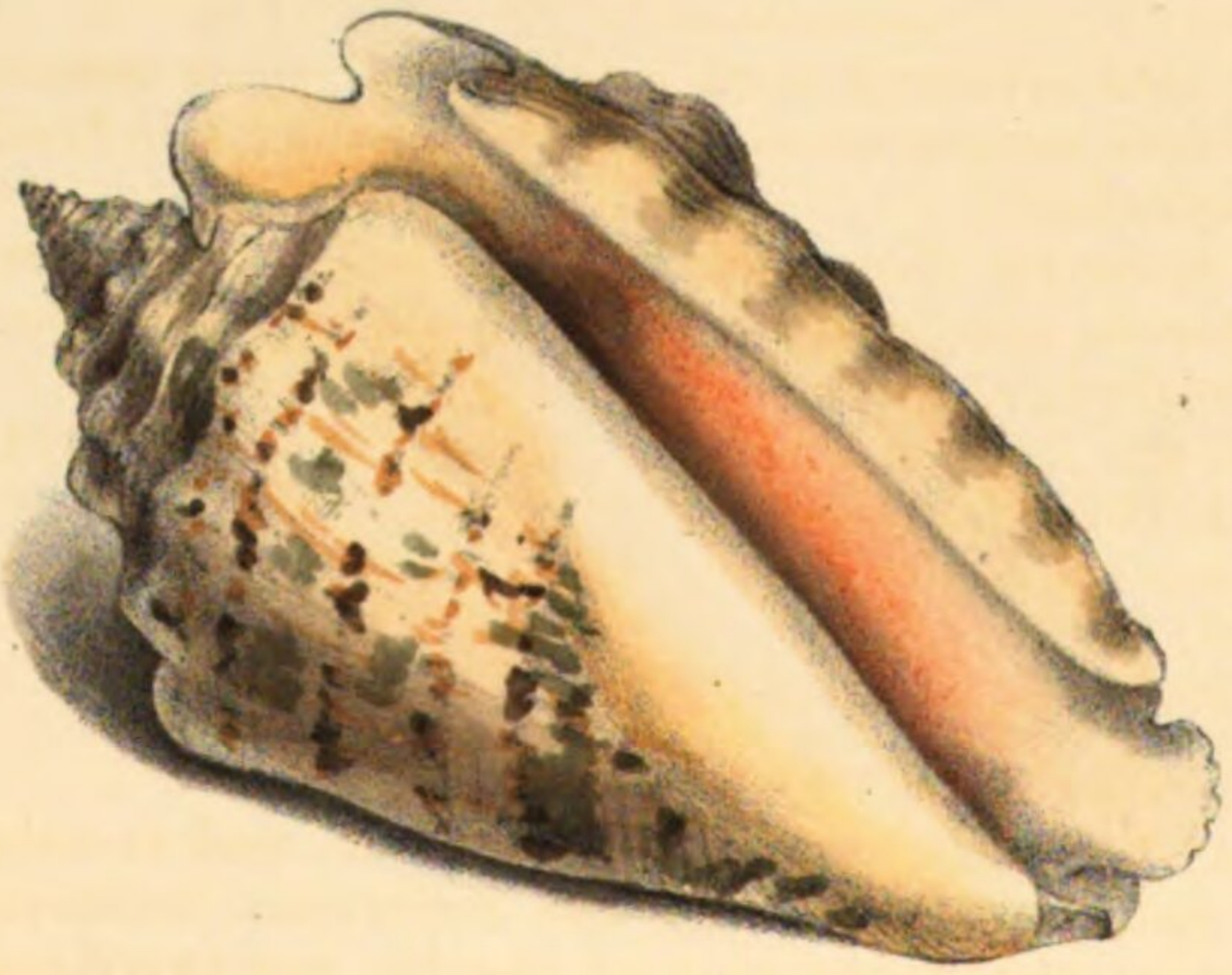
SPECIFIC CHARACTER.

I HAVE selected this insect as one of the rarest among a vast number of species of this elegant tribe, collected during my travels in Brazil. Two specimens of the male, and one of the female insect, were captured in the woods near Pernambuco, in lat. 8° 12 S.

The male insects, in the majority of the Hair-Streaks, have either a velvet or eye-like spot in the middle of the anterior wings, adjoining the costine margin; these spots are without lustre, and frequently appear as if caused by being rubbed: the colours likewise, on the upper surface of the wings of the males, usually differ from those of the females.

Wings above brown; anterior ones with the ball next the base central spot black, encircled with grey; the pupil black with a white dot. Posterior wings two-tailed; exterior tail very short, interior lengthened; and angle cupreous, margin whitish. Anterior wings beneath pale chestnut brown, tips obscure; in the middle are two black dots, one of which is small: above these are three others, which form a short transverse line united to the margin. Posterior wings beneath, dark chestnut; with two central blackish dots in the middle; below are two undulated brown lines, parallel to the posterior margin; the anterior margin pale, with a black dot near the base; anal angle, clouded with grey and tipt with a black spot: another spot is also at the base of the exterior tail. In the female, all the wings above are brown, with a pale blue base; but the under surface, except in being paler, resembles that of the male.

Pl. 124.



STROMBUS exustus,

Burnt, or Purple-mouthed Strombus,—(*Upper figure.*)

GENERIC CHARACTER.—See Pl. 10.

SPECIFIC CHARACTER.

S. testâ nodosâ; labio interiore albo, lævi; labii exterioris inflexi, supra sinuati, intus purpureo-atri, striati; lobo basali edentulo.

Shell nodulous; inner lip smooth, whitish; outer lip inflected, above sinuated, within striated, blackish purple; basal lobe not toothed.

Young. S. papilio. *Chem.* x. *t.* 158. *f.* 1510, 11. *Dillw.* 661. 120. 11.
Adult. Strombus exustus. *Humphreys in Mus. Cal. p.* 38. *n.* 714.
S. lentiginosus. *Martini*, iii. *t.* 80. *f.* 825, 826. *Gmelin.* 3510.
(var. β.) Dillwyn. 660.
Seba, t. 52. *f.* 17. 18. *Knorr.* 3. *t.* 26. *f.* 2. 3?

SPECIMENS now before me prove that the *S. papilio* of Chemnitz is a young shell of *S. exustus,* a species named by Mr. Humphreys in the Calonne Catalogue, and described in his own manuscripts. In a young state, the aperture is smooth and nearly white, but when full grown, the outer lip is strongly striated, and the aperture reddish purple, dark red, or reddish chesnut: the outer lip is but slightly sinuated above, and the basal lobe never toothed, as in the next species. Inhabits the island of Haynam, in the East Indies, and is very rare.

STROMBUS lentiginosus,

Tuberculated Strombus,—(*Lower figure.*)

S. testâ nodosâ; labii exterioris supra rotundati ad spiram annexi, profundè bilobati, margine crasso inflexo, sub-nodoso; lobo basali dentato; aperturâ lævi.

Shell nodulous, outer lip above rounded, attached to the spire, deeply bilobated, margin thick, inflexed, slightly nodulous; basal lobe toothed; aperture smooth.

Young. *Seba, t.* 62. *f.* 37. 40. *optimè.* *Martini,* 3. *t.* 89. *f.* 871. *t.* 91. *f.* 891. 892? *Lister,* 893. 12?
Adult. S. lentiginosus. *Gmelin,* 3510. *Dillwyn.* 660. *Martini,* 3. *t.* 81. *f.* 827, 828.
Seba, 62. *f.* 11. 30. *(optimè.) Lister,* 861. 18. *Gualt.* 32. *f.* A.

THIS common shell requires little description, and is only introduced to contrast more fully the difference between these two species: the upper part of the lip has two deep notches, which form three prominent lobes; the basal lobe is toothed, similar to the *Pteroceræ:* the aperture (in those shells from the East Indies) is light pink inside. A large and fine variety comes from the Mauritia islands, having the mouth within pale golden yellow.

STROMBUS crudus.

Burnt, or Purple-mouthed Strombus.—(Iper. figure.)

Generic Character.—See Pl. 10.

Specific Character.

S. testâ nodosâ; labio inferiore alto, lævi; labio exteriore sulcato, supra tuberâ, valde perspicuâ, retuso; labro basali dilatato.

Shell nodulous; inner lip smooth, ornamented by numerous, irregular, deeply bilobated, orange blotch; outer lip deeply bilobated, margin black; internal, slightly nodulous; mouthed, operculate smooth.

Long. 8. poll. Cochlea, 1832. Mawe, i. 4. 34. (1811.

Adul. Strombus crudus. Chemn. vi. 29. t. 32. f. 310. Dillwyn, 369. Wood, 120. 11.

S. lentiginosus. Martini, ii. 68. t. 65. f. 737. 740. Encycl. 5310.

(var. β.) Dillwyn, 369.

Syn. A. 32. f. 17. 18. Adans. 4. t. 32. f. 37.

Specimens now before me prove the Strombus of Chemnitz is a young shell of S. crudus, a species named by Mr. Humphreys in the Catalogue, well described in his own manuscripts. In a young state, the aperture is smooth and nearly white, but when full grown, the outer lip is strongly striated, and the aperture reddish purple, dark red, or reddish chesnut: the outer lip is but slightly situated above, and the basal lobe never toothed, as in the next species. Inhabits the island of Guyana, in the East Indies, and is very rare.

STROMBUS lentiginosus.

Tuberculated Strombus.—(Lower figure.)

S. testâ nodosâ; labio exteriore supra retuso ad aperturæ cornua, profunde bilobato, margine crasso nigricante, sub-reverso; labro basali dilatato; aperturâ lævi.

Shell nodulous, outer lip above retuse, deeply bilobated, margin thick, blackish, sub-reverted; basal lobe dilated; aperture smooth.

Testa. Schr. i. 62. f. 37. 40. optime. Martini, i. 4. 34. f. 371.

i. 81. f. 891. 892. Encyc. 5310. Dillwyn, 369. Martini, 3.

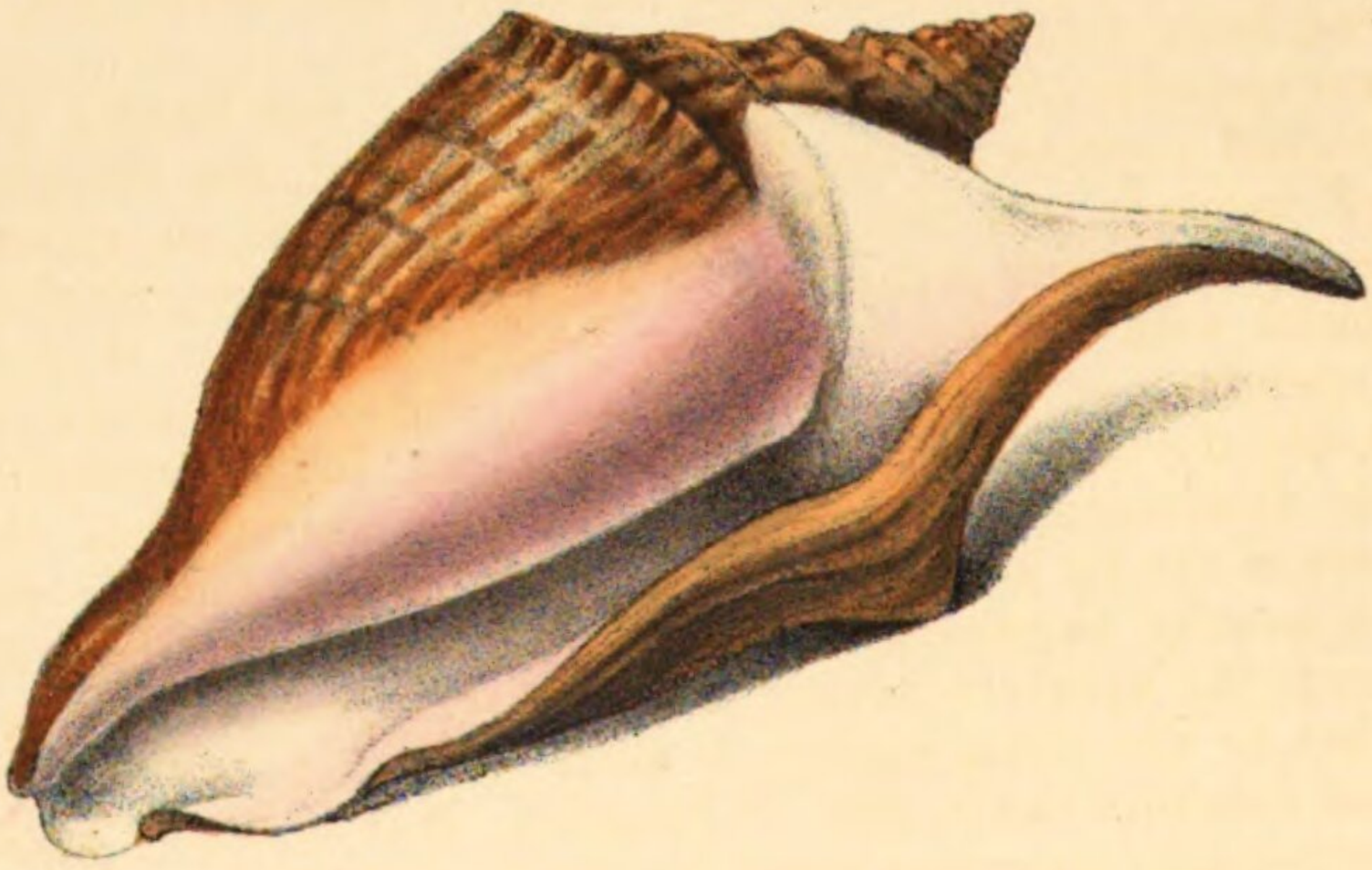
Adult. S. lentiginosus. Chemn. 5310. Dillwyn, 369. Martini, 3.

i. 81. f. 877, 878.

Syn. Bec. f. 11. 30. (Spadic.) Lam. 801. 18. Gmel. 3512. 4.

This common shell requires little description, and is only introduced to contrast more fully the difference between these two species: the upper part of the lip has two deep notches, which form three prominent lobes; the basal lobe is toothed, similar to the Persicum: the aperture (in those shells from the East Indies) is light pink inside. A large and fine variety come from the Mauritia islands, having the mouth within pale golden yellow.

Pl. 138.



STROMBUS tricornis,
Horned Strombus.

GENERIC CHARACTER.—See Pl. 10.

SPECIFIC CHARACTER.

S. testâ ponderosâ, nodis longitudinaliter compressis armatâ; labio exteriore inflexo, margine crasso, suprà attenuato et ultra spiram producto; canali truncato.

Shell ponderous, with longitudinally compressed nodules; outer lip inflexed, the margin thick, above attenuated and produced beyond the spire; channel truncated.

In young stages of growth.

Seba, pl. 62. *f.* 36, 10. *Martini* 3. *tab.* 91. *f.* 890. *tab.* 85. *f.* 847.

Var. A. Shell whitish, outer lip much produced. *Upper figure. Martini, vol.* 3. *tab.* 84. *f.* 844, 845. *Sw. Ex. Conch. part* 4.

Var. B. Shell varied with chesnut, outer lip shorter. *Lower figure. Ency. Méth. t.* 408. *f.* 1. *t.* 409. *f.* 2. *Martini,* 3. *tab.* 84. *f.* 843. *Lister,* 871. *f.* 25. 873. *f.* 29.

MARTINI was the first conchological writer who separated this species from the *Strombus Gallus* of Linnæus; under which name are included three shells, so remarkably different from each other, that they hardly possess a single character in common.

The original name of Linnæus I have retained to that species figured by *Seba, tab.* 62. *fig.* 1 and 2, and by myself in *Exotic Conchology, Part* 4.

Strombus tricornis, although figured, has never yet, I believe, been defined.

Two varieties of this shell are met with; one having the attenuated process of the lip much produced, the margins folded inward, and the tip somewhat spatulate, or spoon-shaped: the colour of this variety is generally white, slightly varigated with brown stripes or irregular spots. A very fine specimen of this variety, having these characters remarkably developed, is in my own cabinet, and is figured in *Exotic Conchology*, part 4. The second variety has the process of the lip shorter, and the margins not folded; the colour usually brownish, richly clouded and variegated with chesnut; the aperture within is tinged with pale red or rosy; but that of the other variety is pure white. I believe this species inhabits the coasts of America; it is a heavy shell, and sometimes measures seven inches in extreme length.

Pl. 135.

STROMBUS tricornis,
Horned Strombus.

SPECIFIC CHARACTER.

S. testâ ponderosâ, ovali longitudinaliter costato-varicatâ; labio exteriore infrà, margine crasso, reflexo dilatato et ultra spiram producto; canali brevi.

Shell ponderous, with longitudinally compressed nodules; outer lip inflexed; the margin thick, above attenuated and produced beyond the spire; channel truncated.

Is pouty stage of growth.

Seba, pl. 93, f. 30, 10. Martini, tab. 61, f. 610, 611. Gmel. 3547.

Var. A. Shell whitish, outer lip mouth purplish. Chiton figure. Martini, vol. 2, tab. 64, f. 611, 610. Sow. Z. C. Conch. part 4.

Var. B. Shell varied with chestnut, outer lip edging. Lister figure. Ency. Méth. p. 408, f. 1, a, b, c. Martini, vol. 2, tab. 64, f. 612. Lister, 871, f. 25. Gmel. 3547.

MARTINI was the first conchological writer who separated this species from the *Strombus Gallus* of Linnæus; under which name are included three shells, so remarkably different from each other, that they hardly possess a single character in common.

The original name of Linnæus I have retained to that species figured by Seba, tab. 62, fig. 1 and 2, and by myself in Zoölc Conchology, Part 4.

Strombus tricornis, although figured, has never yet, I believe, been described.

Two varieties of this shell are here given, one having the attenuated process at the lip rather prolonged, the margins folded inward, and the top somewhat spotted, or spoon-shaped. The colour of this variety is principally white, slightly variegated with brown strips or irregular spots. A very fine specimen of this variety, having these characters remarkably developed, is in my own cabinet, and is figured in Zoölc Conchology, Part 4. The second variety has the process of the lip shorter, and the margin not folded; the colour usually brownish, thickly covered and variegated with chesnut; the aperture within is tinged with pale red brown; but that of the other variety is pure white. I believe this species inhabits the coasts of America; it is a heavy shell, and sometimes measures seven inches in extreme length.

AMPULLARIA crassa,

Thick Apple Snail,

Upper and lower figures.

GENERIC CHARACTER.—See Pl. 103.

SPECIFIC CHARACTER.

A. testâ globosâ, lævi, (sub epidermide) albâ, fasciis fuscis ornatâ; spiræ levatæ apice obtuso; aperturæ margine albo, crasso; umbilico caret.

Shell globose, smooth, beneath the epidermis white with brown bands; spire elevated, tip obtuse; margin of the aperture thick, white; umbilicus none.

Martini 9. *t.* 128. *f.* 1135.

A DISTINCT species, well characterised by the absence of the umbilicus, the situation of which is indicated only by a slight depression: the margin of the aperture all round is thickened, and white; but, from no groove being discernible, I suspect the operculum may be horny. The only specimen I have, is divested of the epidermis; it is obviously an old shell; and appears to agree with the figure of Martini, also taken from an uncoated specimen.

AMPULLARIA oblonga,

Oblong Apple Snail,—(*Middle figures.*)

A. testâ oblongâ, lævi, tenui, fuscâ; spirâ levatâ, crassâ, obtusâ; aperturæ elongatæ basi contractâ; umbilico vix obsoleto.

Shell oblong, smooth, thin, brown; spire elevated, thick, obtuse; aperture lengthened, base contracted; umbilicus nearly obsolete.

A RARE and undescribed shell, presenting a singular deviation from the general globose form of the *Ampullariæ*. The inner lip is wanting on the upper part of the aperture, and on the lower is thin, white, and reflected over the umbilicus, which is nearly obsolete.

Both these shells were in the late Mrs. Bligh's collection, without any *habitat* being affixed to them.

PAPILIO Polybius.

GENERIC CHARACTER.—See Pl. 92.

SPECIFIC CHARACTER.

P. alis nigris; anticis maculo albo centrali; posticis dentato-caudatis maculo rubro centrali nervis diviso; abdomine strigâ laterali; thorace punctis flavis subtùs, ornatis.

P. *(Tr. caud.)* wings black; anterior with a central spot of white; posterior dentated and tailed, with a central red spot, divided by the nerves; stripe on each side the abdomen and spots on the thorax beneath, yellow.

AN insect neither described nor figured by any author. To my liberal friend, Dr. Langsdorff, I am indebted for the two specimens in my own cabinet, collected by himself in the interior of Minas Geraes, or the Diamond district of Brazil. I am not aware of the insect having been found in any other part of that vast country.

An unusual character is presented in this species, alone sufficient to distinguish it from any other contained in the division to which it belongs. This consists in the thorax beneath being spotted with yellow, and the body, on each side of the under surface, having a narrow yellow stripe; the basal margin of the inferior wings is also yellow. Strictly speaking, these yellow spots would remove it from the section *Trojani*, but it would then be improperly separated from *P. Lysithoüs*, *Agavus*, and others to which it is, in every respect, closely allied.

Pl. 137.

PAPILIO Polydamas

GENERIC CHARACTER.—See Pl. 92.

SPECIFIC CHARACTER.

P. ala nigra; maculis marginalibus viridi-caudatis; macula rubra centrali postica divisa; abdomine virgâ laterali; thorace punctis duobus rubris ornato.

P. (♀, caud.) wings black; anterior with a central spot and white, posterior dentated and tailed, with a central red stripe, divided by the nerves; stripe on each side the abdomen and spots on the thorax beneath, yellow.

An insect neither described nor figured by any author. To my liberal friend, Dr. Langsdorff, I am indebted for the two specimens in my own cabinet, collected by himself in the interior of Minas Geraes, or the Diamond district of Brazil. I am not aware of the insect having been found in any other part of that vast country.

An unusual character is presented in this species, alone sufficient to distinguish it from any other contained in the division to which it belongs. This consists in the thorax having each side of the under surface, leaving a narrow yellow stripe, the usual margin of the inferior wings is also yellow. Strictly speaking, these colors separate it from the section Troilus, but it would clap in indifferently enough from P. Lysithous, Agestus, and others; to which it is nearly allied in respect, closely allied

Pl. 132.

MALURUS garrulus,
Noisy Soft-tail Warbler.

GENERIC CHARACTER.

Rostrum validius, breve, totum valdè compressum, altius quam latius, culmine prominente plúmas frontales dividente et ad apicem aliquandò emarginatum, vix incurvo. Nares basales membranâ tectæ, aperturâ laterali. Alæ brevissimæ, rotundatæ, remigum 3 *primorum longitudine proximorum* 4 *longitudinem superante. Cauda plerumque longa, cuneata, radiis mollibus, decompositis. Pedes validi, digito exteriore ad digiti medii basin annexo. Hallux validus.*

Ob. Rostri basi vibrissis setaceis sparsis instructâ. Tem.

Bill rather strong, short, much compressed its whole length, higher than broad, the ridge prominent, dividing the frontal feathers, and bent at the tip, which is sometimes notched. Nostrils basal, covered by a membrane, the aperture lateral. Wings very short, rounded, the three first quills shorter than the four next. Tail generally long, cuneated, the radii soft and decomposed. Legs strong; the outer toe connected to the base of the middle toe. Hind claw strong.

Ob. Base of the bill with setaceous hairs. *Temminck.*

Generic Types—Turdus brachypterus. *Lath.* Le Flûteur. *Vail. Ois. d'Af.* 3. *pl.* 112. *f.* 2. Le Capolier. *Do. pl.* 129. *pl.* 130. *f.* 1.

SPECIFIC CHARACTER.

M. fuscus, infrà albescentibus; plumis frontalibus rigidis, acuminatis, rufis; strigis ante et pone oculos albescentibus; caudâ mediocri, rotundatâ.

M. brown, beneath whitish, feathers on the front of the head rigid, pointed, and rufous; lines before and behind the eye whitish: tail moderate, rounded.

THE colours of this bird are altogether plain; but it is remarkable for its very singular nest, which is so large, as to form a feature in the woodland scenery of Bahia, the only part of Brazil where I observed it: the nest is built in low

trees, formed externally of dried sticks, without any neatness, and is usually three or four feet long, resembling at a distance a thick twist of bean stalks thrown in the branches by accident: sometimes two of these nests appear as if joined together, and there is an opening on the side, besides one at the top. The sexes are generally seen near the nest, uttering a shrill, incessant, monotonous chirp, particularly in the morning and evening. I never could bring myself to tear one of their nests to pieces, merely to see its construction.

All the birds of this genus are stated by Professor Temminck to be natives either of the old world, or of the southern hemisphere; but the observations I have made, lead me to think otherwise. Two of the generic types M. Temminck has given, are the same as those I have selected; these birds are now before me; the other (*Le Capolier,*) is so like the species here figured, that (judging from Le Vaillant's plate) they might easily pass for the same bird. Two other species, with characters perfectly resembling *M. garrulus,* are likewise found in Brazil.

From a consideration, therefore, of the affinities and habits of these birds, I conceive they may constitute a very natural genus, closely allied to *Sylvia,* having very compressed bills, short wings, russet coloured plumage, with soft and generally long tails, and building rather large and cylindrical nests. On the other hand, if the whole of the birds mentioned by P. Temminck are retained in the genus, I apprehend it will become entirely artificial; inasmuch as it will include not only the birds above mentioned, but the *Motacilla superba,* and a large non-descript bird from New Holland, the size of a thrush, which in habit, though not in characters, resembles a shrike.

M. Vieillot first proposed this genus, but his definition is so short and obscure, that little can be gained from it.

The slight sketch in the distance, introduced in the plate, will give some idea of the singular nest of this bird.

SYLVIA plumbea,

Grey-backed Warbler.

GENERIC CHARACTER.

Rostri recti, tenuis, basi altiore quam latiore, mandibulâ superiori aliquando emarginatâ, inferiori rectâ. Nares basales, laterales, membranâ partim tectæ. Crura longiora digito medio, qui digito exteriori ad basin annectitur. Ungue posteriore mediocri, digito posteriore breviore et arcuato. Remigum pinnâ primâ brevissimâ aliquando caret. Tectrices remigibus multo breviores. Temm.

Bill straight, slender, base higher than broad; superior mandible sometimes notched, the inferior straight. Nostrils basal, lateral, partly covered by a membrane. Legs longer than the middle toe, which is united to the exterior toe at the base; hinder claw moderate, shorter than the toe, and curved. Wings; the first quill very short, or wanting, greater covers much shorter than the quills. *Temminck.*

Generic Types—*Turdus arundinaceus.* Lath. *Sylvia locustella. Luscinia. Trochilus. Regulus.* (Temminck.)

SPECIFIC CHARACTER.

S. cæruleo-grisea, infra aurea; dorso olivaceo; tectricium apicibus albis.

Blue grey, beneath golden yellow; back olive; wing-covers tipt with white.

THERE is an elegance of shape, and a harmony of colouring, in the Warblers, that render these delicate little birds very interesting. The species are exceedingly numerous, and are spread over most parts of the world; several abound in our own woods and hedges, and the "sacred bird" of our childhood, the Robin Redbreast, is among the number. That now before us is a native of Brazil, from whence it was received by Mr. Leadbeater; I never met with it myself. The first quill feather is hardly shorter than the three next, which are all of equal length; the tail-feathers are even, and rather pointed; their colour black, margined with grey; the two outer with a white spot on the inner web; the under wing and tail-covers white.

I have made no material alteration in Prof. Temminck's definition of this overgrown genus, being convinced it might lead to confusion, while the generality of the birds composing it remain so little known.

SYLVIA plumbea.

Grey-backed Warbler.

Sylvia plumbea, Jerdon, Madras Journ. Lit. & Sc. x. p. 236 (1839); Blyth, Ann. & Mag. N. H. xiii. p. 466 (1844); Jerdon, Birds of India, i. p. 455 (1862); Gould, Handb. Birds Eastern Asia, ii. p. 124 (1861).

Specific Characters.

S. caerulescenti-grisea, infra aurea; dorso olivaceo; fasciam superciliarem albam. Blue-grey, beneath golden yellow; back olive; wing-coverts tipped with white.

Turdus is an elegance of shape, and a harmony of colouring, in the Warblers, that reader these delicate little birds very interesting. The species are exceedingly numerous, and are spread over most parts of the world; several abound in our own woods and hedges, and the "sacred bird" of our childhood, the Robin Redbreast, is among the number. That now before us is a native of Brazil, from whence it was received by Mr. Leadbeater; I never met with it myself. The first quill feather is hardly shorter than the three next, which are all of equal length; the tail-feathers are even, and rather pointed; their colour black, margined with grey; the two outer with a white spot on the inner web; the under wing and tail-coverts white.

I have made no material alteration in Prof. Temminck's definition of this overgrown genus, being convinced it might lead to confusion, while the generality of the birds composing it remain so little known.

Pl. 158.

TROGLODYTES rectirostris,

Straight-billed Wren.

Troglodytes. *Ray. Cuvier. Vieillot.* Sylvia. *Latham. Temminck.*

Generic Character.

Rostrum curvatum, rarò rectum, lateribus compressis; apice vix emarginato. Nares basales. Alæ brevissimæ, rotundatæ, remigum majorum 3 exteriorum longitudine quartæ longitudinem superante, cæteris paribus et vix remigibus minoribus longioribus. Rectrices breves, fasciculatæ, erectæ. Hallux digito medio brevior. Plumæ fuscæ.

Bill curved; rarely straight, the sides compressed, the tip slightly notched. Nostrils basal. Wings remarkably short, rounded, the three exterior greater quills shorter than the fourth; the remainder of equal length, and hardly longer than the lesser quills. Tail-feathers weak, short, fasciculated, and generally carried erect. Hind toe shorter than the middle toe. Plumage brown.

Generic Types *Motacillæ troglodytes et furva.* Gm. *Certhiæ familiaris, palustris, et Caroliniana.* Wilson, *Am. Orn.*

Specific Character.

T. fuscus, jugulo pectoreque pallidioribus; mento nigricante; corpore medio niveo; rectricibus angustis, nigris; mandibulæ superiore apice adunco.

Brown; throat and breast paler; chin blackish, middle of the body snowy, feathers of the tail black and narrow; tip of the upper mandible hooked.

This singular little bird agrees more in its general character with *Troglodytes*, than with any other established genus; yet with this its similitude is but slight. Anxious, nevertheless, to avoid what might hereafter prove an unnecessary innovation, I have placed it with the Wrens, under the distinguish-

Pl. 140.

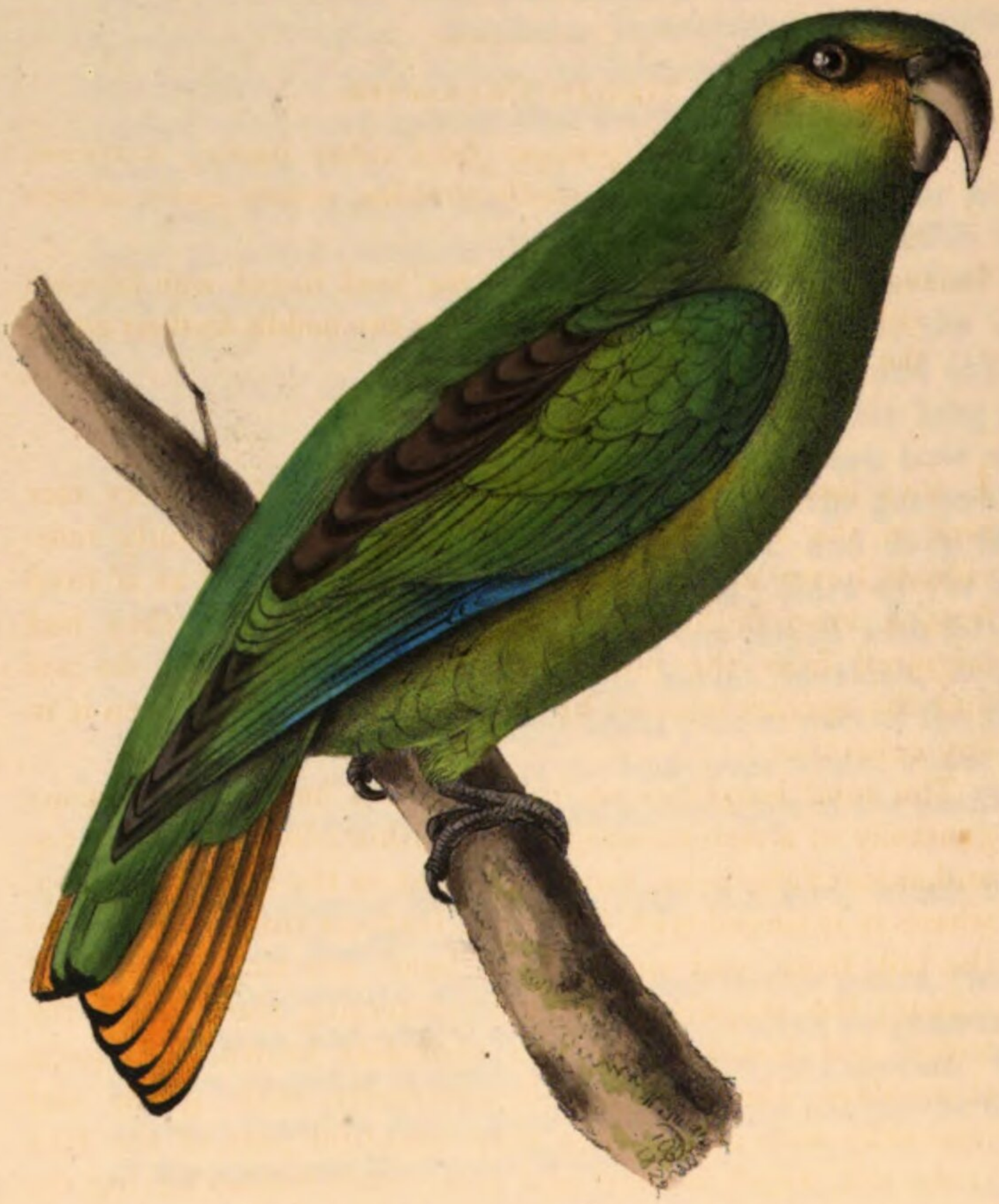
ing name of *rectirostris;* although I am more inclined to think it constitutes a distinct genus.

Troglodytis, originally instituted as a genus by our illustrious countryman Ray, has been adopted both by M.M. Cuvier and Vieillot. Professor Temminck, on the contrary, has included it with *Sylvia;* an immense genus, already burthened with more species than are rightly understood, or that really belong to it.

Figure the natural size. Bill straight, triangular at the base, the sides compressed, tip of the upper mandible bent down and notched; nostrils large, lengthened, covered by a membrane, which (except at the base,) is naked; the aperture terminal, near the edge of the bill, narrow, and oblong: the feathers on the rump and flanks remarkably long; the three fore toes slender, and all connected at their base as far as the first joint: tail even, and longer than the generality of Wrens, the feathers very narrow, weak, and deep black. Plumage above light or reddish brown; sides of the head, neck, breast, and body, the same, but tinged with fulvous; the chin and upper part of the throat blackish, but the margin of the feathers partly white: lower part of the throat and breast dusky: middle of the body pure white; under wing covers, inside margin of the quills, and edge of the shoulders, white.

Mr. Leadbeater favoured me with this bird, which he received from Brazil.

The comparative length of the bill in this genus, (leaving the present bird out of consideration,) offers no generic distinction, because it varies greatly in different species. Some of those found in Brazil have the bill nearly double the length of the common European Wren.



141.

PSITTACUS chryseürus,

Golden-tailed Parrot.

GENERIC CHARACTER.—See Pl. 1.

SPECIFIC CHARACTER.

P. nitidè viridis; fronte genisque fulvo colore tinctis; rectricium brevium, parium, pennis mediis viridibus, cæteris aureis, omnium apicibus nigris.

Shining green; front and sides of the head tinged with fulvous; tail short, even, tipt with black, the two middle feathers green, the rest golden.

I WAS fortunate in procuring both sexes of this very rare bird in the vicinity of Pernambuco, being the only individuals I ever met with in Brazil: they appeared as if tired from a long flight, which led me to suppose they had migrated from the interior towards the coast. I do not find the species noticed by any writer, nor have I seen it in any collection.

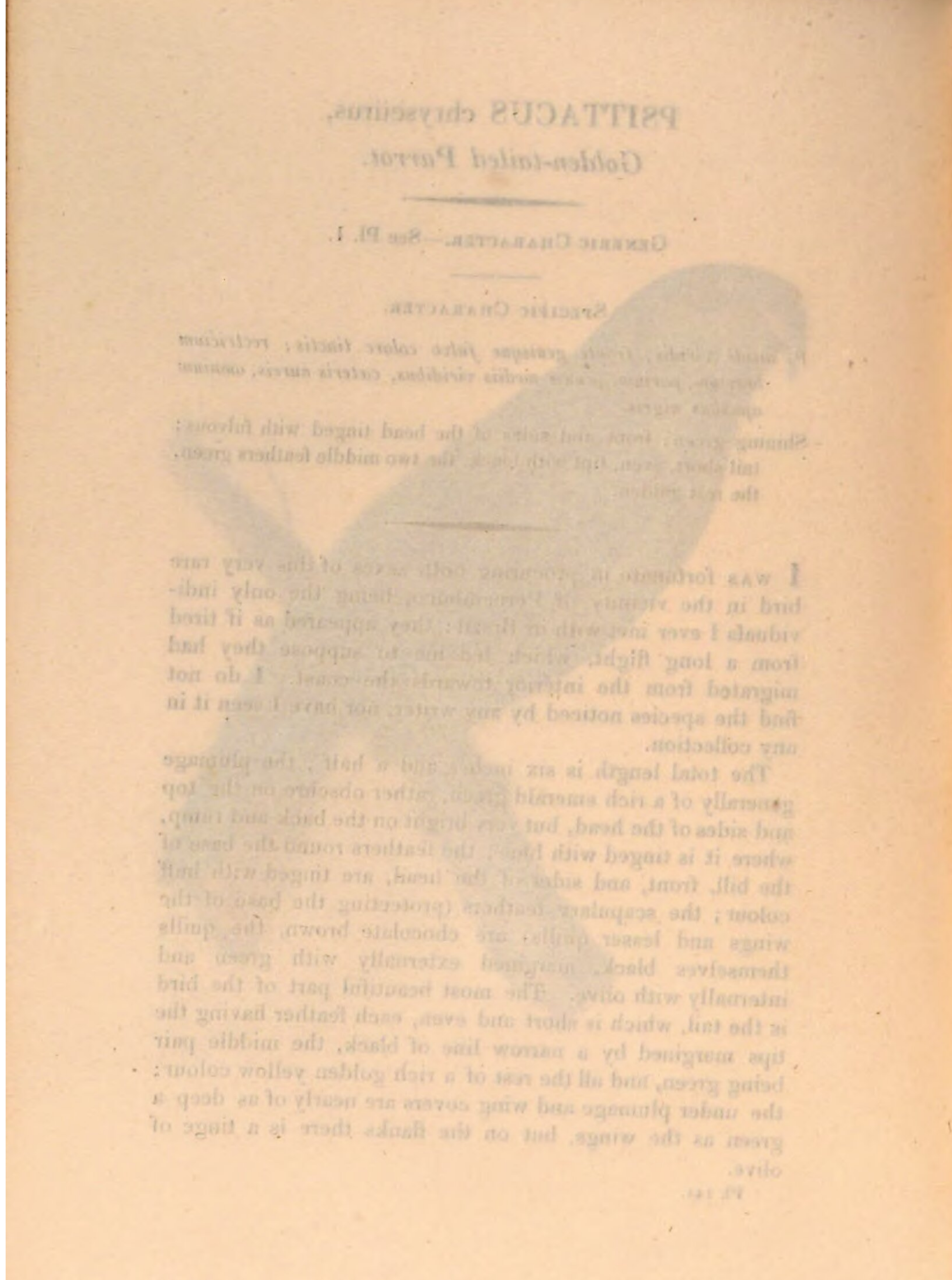
The total length is six inches and a half; the plumage generally of a rich emerald green, rather obscure on the top and sides of the head, but very bright on the back and rump, where it is tinged with blue; the feathers round the base of the bill, front, and sides of the head, are tinged with buff colour; the scapulary feathers (protecting the base of the wings and lesser quills) are chocolate brown, the quills themselves black, margined externally with green and internally with olive. The most beautiful part of the bird is the tail, which is short and even, each feather having the tips margined by a narrow line of black, the middle pair being green, and all the rest of a rich golden yellow colour; the under plumage and wing covers are nearly of as deep a green as the wings, but on the flanks there is a tinge of olive.

Pl. 141.

PSITTACUS chrysotus,
Golden-tailed Parrot.

GENERIC CHARACTER.—See Pl. 1.

SPECIFIC CHARACTER.



NECTARINIA flaveola, *var.*
Yellow-bellied Nectarinia.

GENERIC CHARACTER. — See Pl. 117.

SPECIFIC CHARACTER.

N. nigricans, infrà flava; mento, superciliis rectriciumque trium exteriarum apicibus, albis; fasciâ uropygiali olivaceâ.

Blackish brown; beneath yellow; chin, eyebrows, and tips of the three outer tail-feathers white; band on the rump olive.

Certhia flaveola. *Gmelin*, 479. *Lath. Ind. Orn. v.* 1. *p.* 297. *Gen. Zool. v.* 8. *p.* 248. *Turton*, *p.* 297.
Certhia, *No.* 33. *Brisson. Orn. v.* 6. *App. p.* 117. *Syn.* 2. *p.* 19.
Black and yellow Creeper. *Edwards*, *pl.* 122. *pl.* 362. *Lath. Syn. v.* 2. *p.* 737. *Gen. Zool. v.* 8. *p.* 248. *Turton. p.* 297.
Le Guit-Guit Sucrier. *Vieill. Ois. Dor. Certh. pl.* 51. *p.* 102.

THIS pretty little bird, under different varieties of plumage, appears to be scattered over the greatest part of tropical America, and is one of the most common of its tribe. The best, and indeed the only detailed account of its economy, is given by M. Vieillot; who remarks, that its nest is suspended on the tops of those tall climbing plants, which, in those countries, form a matting over the most lofty trees: the entrance to the nest is at the bottom; the interior is divided into two compartments, in one of which only the young are contained. It feeds both on small insects, and the nectar of flowers. All the above synonyms refer to the different varieties authors have enumerated of this species. Most of these have a white spot at the base of the exterior quills; others vary in having the throat entirely black; and some again have a yellow rump; but none of these agree with the variety here figured, which I believe came from Trinidad. Probably a more perfect knowledge of these supposed varieties will show they contain two or three distinct species.

Notwithstanding the shortness of the bill, this is a decided *Nectarinia*, according to a natural, but not an artificial arrangement. It forms, in some degree, a passage from the shining coloured *Nectariniæ* of America, to the short-billed *Melliphagæ* of the southern hemisphere. On a future occasion I shall offer more detailed observations on the genus *Dicæum* of Cuvier.

The figure is the size of life; and, with the specific character, renders a further description unnecessary.

AMPULLARIA sordida,

Brown Apple Snail, *f.* 1. 2.

GENERIC CHARACTER.—See Pl. 103.

SPECIFIC CHARACTER.

A. testâ globosâ, ferrugineâ, lineis transversis subcarinatis instructâ aperturæ margine tenui; umbilico magno; operculo corneo?

Shell globose, ferruginous, with obsolete transverse subcarinated lines; margin of the aperture thin; umbilicus large; operculum horny?

THE only species of *Ampullaria* with which this may be confounded is *A. fasciata*, p. 103, in comparison with which it is a more globose shell, the aperture narrower, and the spire more obtuse; the umbilicus is larger, round, and not contracted; the suture is not sunk, the shell is not banded with coloured lines, nor is the surface smooth; on the contrary, it is marked with transverse, obscurely carinated lines; while the shell is uniform brown, the aperture within is white, margined with brown.

AMPULLARIA puncticulata,

Oval, punctured Apple Snail, *f.* 3. 4.

A. testâ ovatâ, subtilissimè punctatâ; spirâ obtusâ; labii exterioris margine, interiorisque basi rufis, incrassatis; operculo corneo?

Shell oval, minutely punctured, spire obtuse; margin of the exterior lip within, and base of the inner lip thick and rufous; operculum horny?

THIS and *A. oblonga* are the only species I am yet acquainted with, whose form is not globose. It never grows to a size much larger than the figure; the whole shell is marked by fine longitudinal striæ, and transverse lines of minute dots, discernible only by the aid of a common magnifier; the aperture within is brownish flesh-colour; the margin is strong and reddish, and, within that of the outer lip, is a thickened rim; which, should the operculum be testaceous, may supply the place of the groove for its reception observable in *A. globosa* and *corrugata*. The localities of both these species are unknown to me.

EBURNA Valentiana,

Arabian Eburna.

Generic Character.

Testa turrita, lævis, nitida, umbilicata, basi truncatâ, emarginatâ. Aperturæ angulus superior internè canaliculatus. Animal marinum.

Shell turrited, smooth, polished, umbilicated, base truncated, emarginate. Upper angle of the aperture with an internal channel. Animal marine.

Generic Type *Buccinum Spiratum* Lin.

Specific Character.

E. testâ ventricosâ, maculatâ; aperturæ longitudine spiræ longitudinem superante; spirâ anfractibus 5 convexis, suturis alveatis; basi balteo concavo cinctâ.

Shell ventricose, spotted; spire shorter than the aperture, of five convex volutions; suture channelled; base with a concave belt.

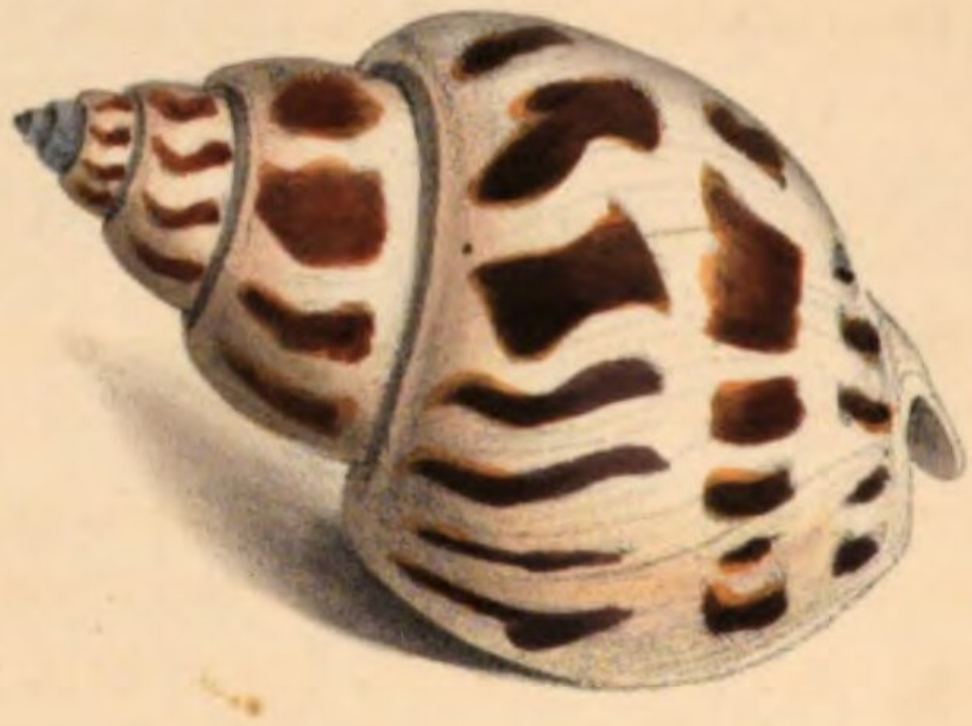
Eburna Valentiana. *Sw. Appendix to Bligh Cat. p.* 6. *lot* 904.

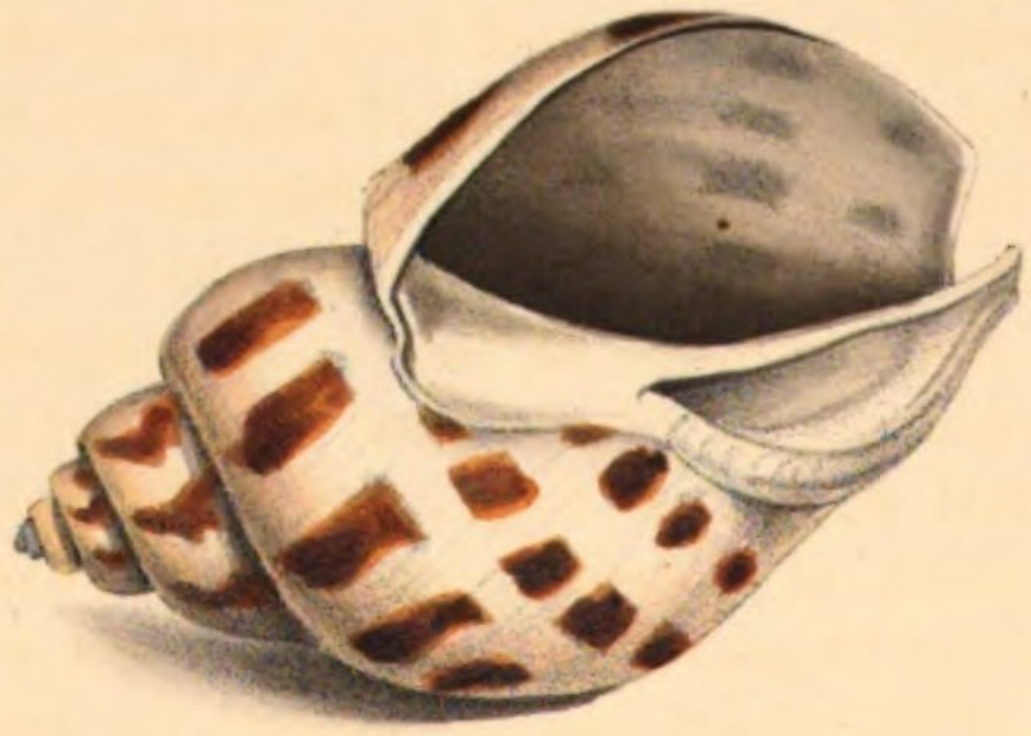
Few species are known of *Eburnæ*, and these are neither well defined, nor correctly figured.

The species selected by most authors as the type of this genus is *Buccinum glabratum* of Linnæus, a shell which, as it unites the characters of *Eburna* and *Ancilla*, should not have been chosen for this purpose. Types of genera are alone intended to represent the usual appearance of those characters on which the genus has been founded; they should therefore be selected from such species only, as represent these characters in their perfect development.

E. Valentiana was first characterized by myself, in the Appendix to the Bligh Collection. It was brought from the Red Sea by Lord Valentia, in honour of whom it is named. The very short spire and concave belt at the base, easily distinguish this shell from *E. spirata*.

Pl. 144.





Nº5.

EBURNA tessellata,

Tessellated Eburna.

GENERIC CHARACTER.—See Pl. 144.

SPECIFIC CHARACTER.

E. testâ maculis fuscis seu purpureis tessellatis fasciatâ; suturâ vix canaliculatâ; anfractuum marginibus convexis.

Shell with bands of tessellated brown or purple spots; suture slightly channelled; margin of the volutions convex.

Buccinum Spiratum. *var. Linn. Gmelin*, 3487. *Dill.* 620. *Brug. p.* 262. 26. *Turton*, 4. *p.* 400. *var.* 2.
Lister, 981. 41. *(bad.) Seba, t.* 73. *f.* 25. 26. *Martini*, 4. *pl.* 122. 1120. 1121.

A SHELL hitherto placed as a variety of *E. spirata, (Buccinum spiratum*, Lin.*)* but from which I am disposed to consider it as specifically distinct. The channel or sulcation round the suture of each whorl is very slight, and the adjoining margin obtuse and convex; whereas in *E. spirata* the channel is broad and deep, having the margin sharply carinated: so far the essential characters of the two shells are at variance; but their difference in colour is so obvious that no one can mistake them.

The form of the umbilicus in this species appears to be constant: it is wide, deep, placed near to the upper angle of the aperture, and margined externally by a convex belt. With the exception of Seba's figures, (which, through the carelessness of the engraver, are reversed,) not a tolerable representation of this shell can be found; for those given by the authors above named, are almost too inaccurate for citation. It inhabits the Indian Ocean.

Pl. 145.

EBURNA Pacifica,

South Sea Eburna.

GENERIC CHARACTER. — See Pl. 144.

SPECIFIC CHARACTER.

E. testâ ventricosâ, maculis fulvis fasciïsque albis ornatâ; spiræ angustæ, acutæ, suturis integris.

Shell ventricose, with fulvous spots and white bands; spire slender, acute; suture entire.

Eburna Pacifica. *Swainson, Appendix to Bligh Cat. p.* 6. *lot* 904.
Eburna lutosa? *Ency. Méth. pl.* 401. *f.* 4.

A DELICATE and rather uncommon shell: first defined in the Appendix I subjoined to the Catalogue of the Bligh collection, dispersed by auction last spring. Mrs. Mawe informs me she has received this, along with other shells, from the Pacific Ocean.

A species at once distinguished by the entire suture and narrow-pointed spire; the inner lip is very thick, with a longitudinal sulcation near the umbilicus.

Whether this is the shell represented in the *Ency. Méth.* at *pl.* 401, *f.* 4, admits of doubt: a short description would have explained the characters, but not one word is said about it. I have already adverted to this novel mode of creating species at pl. 31. If authors will not be at the trouble of defining new species, they have no right to expect their names should be adopted by subsequent and more laborious writers, to whom they leave the more scientific task, of defining characters and collating synonyms.

EBURNA Pacifica.

Syn. Sea Eburna.

Specific Character. — See Pl. 144.

A delicate and rather uncommon shell: first defined in the Appendix I subjoined to the Catalogue of the Bligh collection, dispersed by auction last spring. Mrs. Mano informs me she has received this, along with other shells, from the Pacific Ocean.

A species at once distinguished by the entire suture and narrow-pointed spire; the inner lip is very thick, with a longitudinal sulcation near the umbilicus.

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P. 146.

MUSCIPETA carinata,

Keel-billed Flycatcher.

GENERIC CHARACTER.—See Pl. 116.

SPECIFIC CHARACTER.

M. plumbea, infrà ferruginea; fronte juguloque nigris; temporibus albentibus; rostri culmine carinato.

Plumbeous; body beneath ferruginous; front and throat black; sides of the head whitish; top of the bill carinated.

MR. BROOKES, the celebrated anatomist, first drew my attention to this singular bird; the peculiarity of the bill suggested to us the idea of creating a genus for its reception; but a closer comparison of its other characters with several of the exotic *Muscipetæ* induces me, at least for the present, to associate it with those birds. The Flycatchers, as they now stand in the works of Latham, Shaw, and other Linnæan writers, undistinguished even by sections or subdivisions, present a mass of confusion, which renders the search after an individual, in this immense genus, almost hopeless.

Total length, six inches and a half; front, throat, and margin of the shoulders, deep black; the whole upper plumage is of a delicate lead colour, which is paler on the breast, and nearly white on the sides of the head and neck; body and inner wing covers rufous; the first quill is half the length of the second, which is rather shorter than the three next; feet slender, weak, and short; the outer toe united, the inner cleft. The bill at the base is triangular, but not elevated; the sides compressed; the culmin, or top, is sharp, elevated, and curved; the tip of both mandibles notched: nostrils simple, small, round, without a membrane, and partly hid by the thick-set frontal feathers, and lengthened setaceous bristles round the bill. These parts are delineated on the plate of their natural size; and must form the basis of any future generic alteration in the arrangement of this bird. The figure was from a specimen belonging to Mr. Brookes; since which, I have received two others from New Holland.

Pl. 147.

148.

EMBERIZA cristata,
Crested Bunting.

GENERIC CHARACTER.

Rostrum breve, conicum, compressum, basi aliquatenus hians, mandibulâ superiore inflexâ, inferiore superiorem magnitudine superantem. Nares basales, rotundi, basi plumulis obtectâ. Pedes sedentes, digitis tribus anticis basi divisis, halluce plerumque brevi, curvo, aliquando recto.

Ob. *Remigum pennâ primâ brevi, secundâ tertiâque longissimis.*

Bill short, strong, conic, compressed; the base slightly gaping; upper mandible inflexed; under mandible largest. Nostrils basal, round, covered at the base by small feathers. Feet sitting, the three anterior toes divided at the base; the hind claw in general short and curved, in some species straight.

Ob. The first quill of the wings shorter than the second and third, which are the longest.

Generic Types (Temminck) i. *Emb. citrinella. miliaria* Lin. ii. *Em. nivalis. Fring. Lapponica.*

SPECIFIC CHARACTER.

E. olivacea, infrà flavescens; capite cristato; jugulo nigro; strigâ oculari, scapulis rectricibusque lateralibus flavis.

Olive, beneath yellowish, head crested; throat black; eye stripe, shoulders, and lateral tail feathers, yellow.

THE elegant crest of narrow-pointed feathers on the head of this new bird, at once distinguishes it from all others of the same family. Mr. Brookes favoured me with the individual here described; it was purchased alive at one of the Brazilian ports; but I strongly suspect it had been first brought from Africa, by some one of the slave ships. The figure is of the natural size; down the shaft of each feather on the back is a black line; the tail is rather long, and even; the two middle feathers black; the rest pure yellow, with black shafts, and brown exterior terminal margins; the upper mandible of the bill is sinuated; the base not gaping, but with a few incumbent bristles.

I have taken the authority of Professor Temminck for the accuracy of the generic types of this genus under its present modification.

Pl. 148.

CASTNIA Fabricii,

Red underwing Day-moth.

Generic Character.

Antennæ clavatæ, clavo elongato, cylindraceo, fusiformi, ad apicem unco brevi, acuto armato. Palpi breves, graciles, haud prominentes, articulo ultimo nudo, obliquè verticales. Vertex ocellatus? ocello oculum juxta utrumque posito.

Obs. *Caput parvum; alarum basis squamis conspicuis, elongatis imbricata.*

Antennæ clubbed; club elongated, rounded, fusiform, ending in a short acute hook. Palpi short, slender, not projecting beyond the front, the last joint naked, obliquely vertical. Crown with a small ocellus? adjoining each eye.

Ob. Head small: base of the wings covered with conspicuous, lengthened, imbricate scales.

Specific Character.

C. alis anticis, suprà ferrugineis; posticis rufis, fasciis 3 undatis, nigris, masculis ovatis interstinctis, ornatis.

Anterior wings above ferruginous; posterior rufous, with three waved bands of black, between which are imperfect oval spots.

The insects of this genus form one of the most singular groups among the Lepidoptera; they are few in number, and confined to the tropical regions of America; flying only during the meridian heat, and then with incredible rapidity: they frequent the narrow inlets of thick forests, occasionally resting, far above the ground, on the trunks of trees. The species here figured is very rare, and came from the Diamond district of Brazil: it is named after the illustrious entomologist who first founded the genus. The bases of the wings beneath are furnished, in the male, with a spiral socket and horny spring, similar to those of the Phalænidæ.

SPHINX fasciata.

GENERIC CHARACTER. — See Pl. 81.

SPECIFIC CHARACTER.

S. alis anticis subdentatis, suprà fuscis, margine postico strigâ pallidâ ornato; posticis fulvis, margine nigro; abdomine annuloso, annulis nigris, interruptis, interstitiis albis.

Anterior wings subdentated, above brown, posterior margin with a pale stripe; posterior wings fulvous, margin black; body with black interrupted rings, the interstices white.

THIS approaches so near to the Sphinx Alope of Drury, that it is not without hesitation I have ventured to separate them; it will, however, be seen, that neither in his figure or description is any notice taken of the pale testaceous band on the superior wings; the body likewise is described as "encircled with rings of brown and *dark ash* colour;" in this, the rings are black, on nearly a white ground: the under sides of the superior wings, in Drury's insect, "are spotted along their external edges with long yellowish spots;" in this, they are uniform pale brown. These differences (greatly strengthened by his figure) induce me to consider them as distinct; particularly as both insects appear to have come from Jamaica: the upper side of the antennæ are white, the lower brown. Cramer's figure of S. Alope affords little or no clue to illustrate the question.

SPHINX Leachii.

S. alis anticis subdentatis, griseo-fuscis, maculis mediis 3 nigris; posticis fulvis, margine nigro; abdomine griseo, annulis nigris, interruptis.

Anterior wings subdentated, greyish brown, with three medial black spots; posterior fulvous, margin black; abdomen grey, with interrupted black rings.

I CANNOT reconcile this with any one species described by Fabricius; at the anal angle of the lower wings, is a pale greyish spot, with two short blackish lines: I have named it in honour of that laborious and eminent zoologist, Dr. Leach; who presented me with the specimen here figured.

Pl. 150.

ALCEDO semitorquata,

Half-collared Kingsfisher.

GENERIC CHARACTER. — See Pl. 26.

SPECIFIC CHARACTER.

A. cæruleo-viridis, infrà ochracea; capite cyaneo, lineis nigris transversis ornato; dorso nitidè cæruleo; pectore torque cæruleo-viridi interrupto insigni.

Bluish green, beneath buff colour; head blue, with transverse black lines; back shining light blue; breast with an interrupted blue-green collar.

IN a small collection of birds, procured on the borders of the Great Fish River of the Cape, I met with this new and elegant Kingsfisher. I was fortunate in detecting in the same parcel several other unknown and interesting birds; which I hope to record and illustrate in this work, particularly as they have since been sent to a foreign museum. This species considerably exceeds the size of the Asiatic Kingsfisher, being nearly eight inches and a half long: the bill is black, two inches from the gape, and one and three quarters from the base of the nostrils: head blue, the crown crossed by dusky black lines; hind head somewhat crested, the sides deep and rich mazarine blue; ears and sides of the neck greenish blue, the latter having a stripe of white; the blue on the sides of the neck advances on the breast in the shape of a half-formed collar: wings and scapula covers bluish green, with lighter spots on the tip of each of the wing covers; down the back is a stripe of vivid light blue, similar to the common Kingsfisher: tail dark-blue, edged with greenish, the base black. The plumage beneath, from the chin to the end of the throat, white; changing on the breast to pale fawn colour, which deepens to ferruginous on the body, under tail covers, and thighs: legs red: between the bill and eye a dusky white line.

Pl. 151.

ALCEDO semitorquata.

Half-collared Kingfisher.

GENERIC CHARACTER. — See Pl. 52.

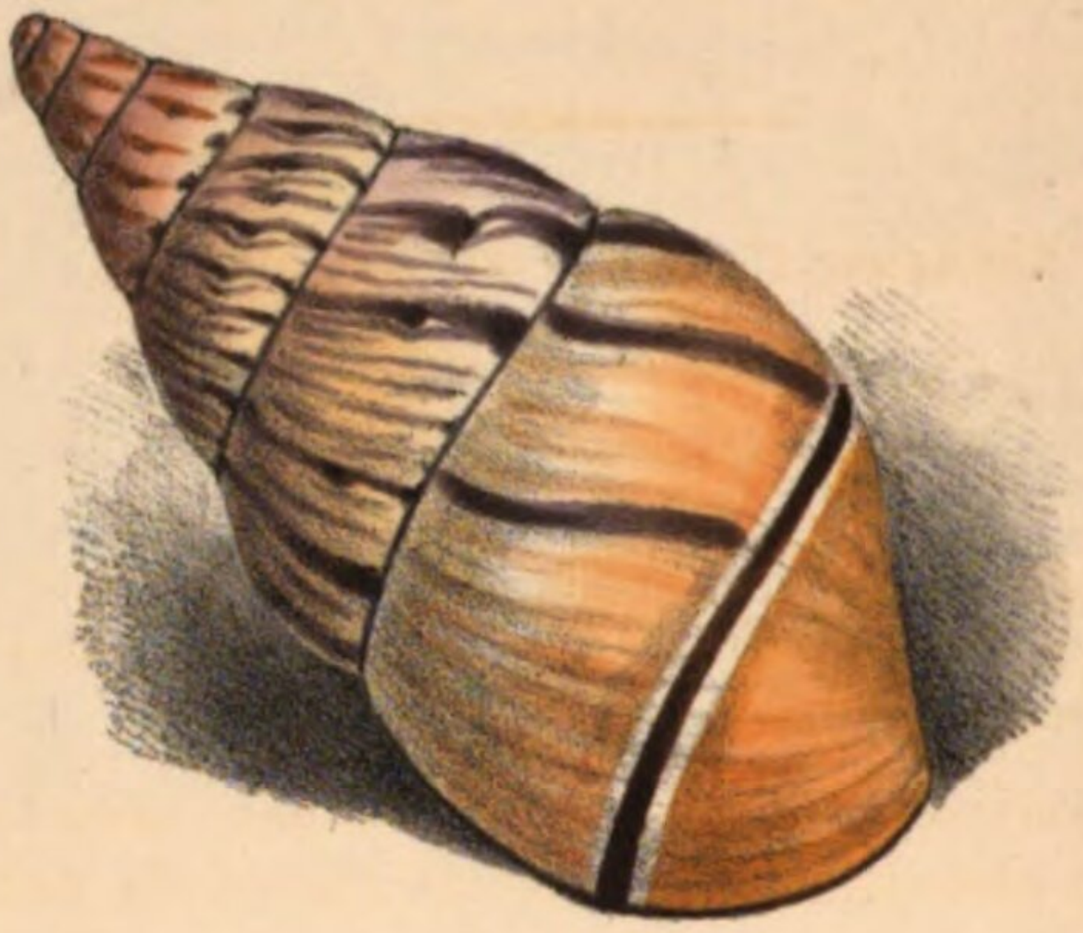
SPECIFIC CHARACTER.

*A. tæniolo-viridis, infrâ albida ochraceo ; capite cyaneo, lineis nigris tribus-
que albis ornato ; dorso nitide cæruleo ; pectore fasciæ cæruleo-
viridi interrupto notato.*

Pileus green, beneath buff colour: head blue, with transverse black lines; back shining light blue; breast with an interrupted blue-green collar.

In a small collection of birds, procured on the borders of the Great Fish River of the Cape, I met with this new and elegant Kingfisher. I was fortunate in detecting in the same parcel several other unknown and interesting birds; which I hope to record and illustrate in this work, particularly as they have since been sent to a foreign museum. This species considerably exceeds the size of the Asiatic Kingfisher, being nearly eight inches and a half long: the bill is black, two inches from the gape, and one and three quarters from the base of the nostrils: head blue, the crown crossed by dusky black lines; hind head somewhat crested: the sides deep and rich marine blue; ears and sides of the neck greenish blue, the latter having a stripe of white; the blue on the sides of the neck advances on the breast in the shape of a half-formed collar: wings and scapulæ covers bluish green, with lighter spots on the tip of each of the wing coverts; down the back is a stripe of vivid light blue, similar to the common Kingfisher: tail dark-blue, edged with greenish, the base black. The plumage beneath, from the chin to the end of the throat, white; changing on the breast to pale fawn colour, which deepens to ferruginous on the body, under tail coverts, and thighs: legs red: between the bill and eye a dusky white line.

Pl. 138.



ACHATINA melastoma,

Black-mouthed Achatina.

GENERIC CHARACTER.—See Pl. 30.

SPECIFIC CHARACTER.

A. testâ strigis longitudinalibus, nebulosis, purpureis ornatâ; spirâ elongatâ; labio exteriore castaneo-nigro; columellâ crassâ, gibbâ; basi integrâ.

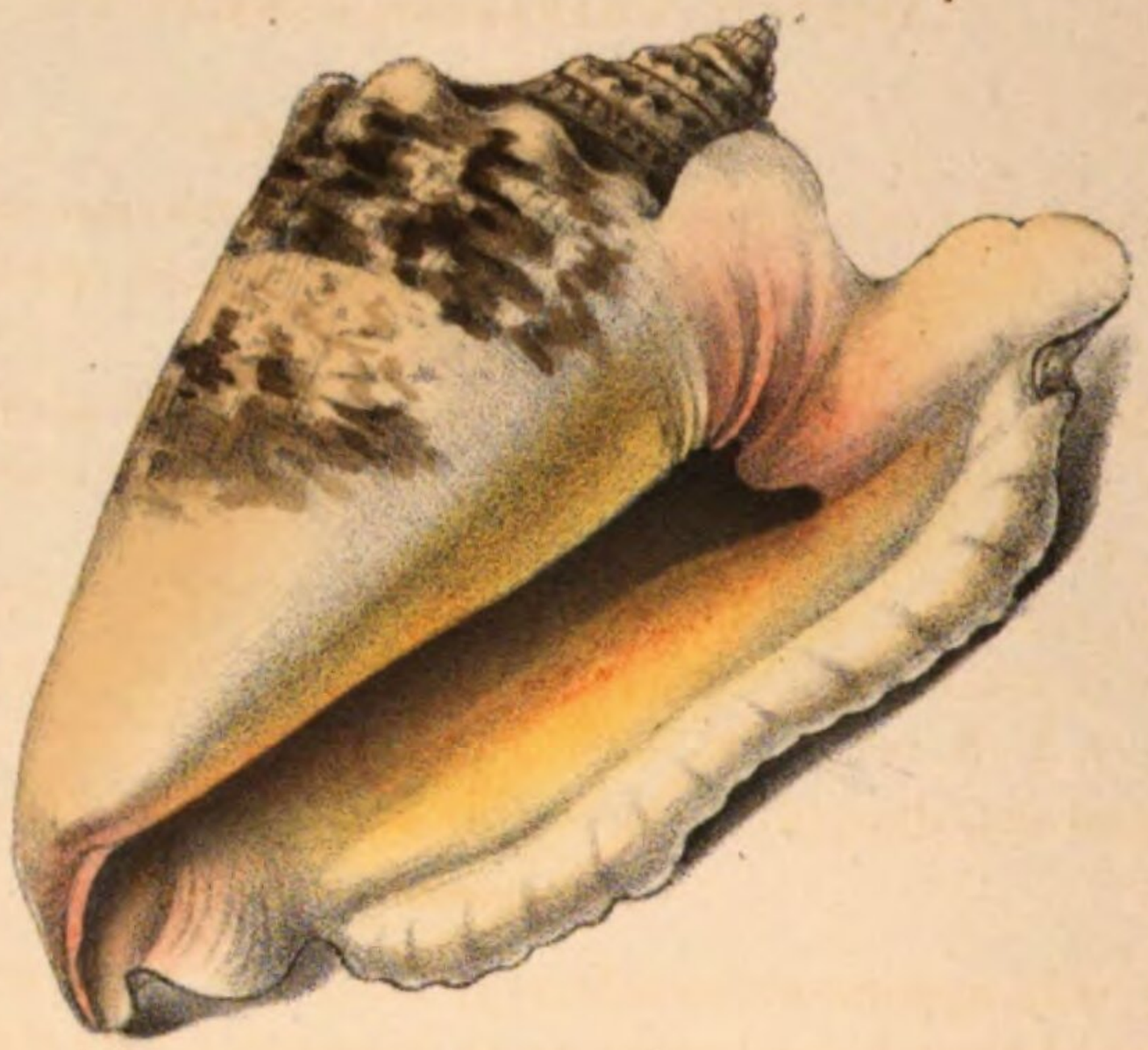
Shell with clouded purple longitudinal stripes; spire lengthened; inner lip chesnut-black; columella thickened, gibbous; base entire.

Var. (reversed.) *A. perversa. Zool. Illust. vol.* 1. *pl.* 30.

I HAVE not the least doubt that this shell is specifically the same with that figured at Plate 30 of this work: it has only recently come under my inspection, and I therefore hasten to give a further illustration of this beautiful species, and to substitute a new specific character, which will be applicable to both varieties.

Although much more ventricose than the reverse variety, this has the same unusual formation of that part of the columella seen at the base of the mouth, where it is very thick, and appears as if swelled: the epidermis, in this specimen, obscures the white ground colour of the shell. I have seen also another variety, even more slender than that at Plate 30, and with the aperture not reversed. These new facts point out the necessity of the specific name of *perversa* being changed to one more applicable.

The figure is from a specimen lent to me by Mr. Dubois, and is probably from Brazil.



STROMBUS lobatus,

Lobed, or Brindled Strombus.

GENERIC CHARACTER.—See Pl. 10.

SPECIFIC CHARACTER.

S. testâ nodulosâ; spirâ brevi, inermi; labio exteriore suprà repando, bilobo, margine crasso, reflexo; aperturâ lævi, rubescente; canale brevi.

Shell nodulous; spire short, unarmed; outer lip above spreading, two-lobed, margin thick, reflected; aperture smooth, reddish; channel short.

Seba, tab. 62. *f.* 4. 5. (*optimè*) 9. 12. 14. 15. 27. *tab.* 63. *f.* 6. *Mart.* 3. *tab.* 83. *f.* 836, 837. *Gualt. tab.* 32. *f.* F. *Knorr* 3. *tab.* 11. *f.* 1–6. *tab.* 29. *f.* 8.

Strombus Gallus, (β) *Gmelin*, 3511. 11. S. Raninus, *Gmelin*, 3511. 10.

IT will appear extraordinary, that this very common shell should have been unknown to Linnæus; and still more, that no other systematic writer should have noticed it, excepting Gmelin, by whom it is placed as a variety of *S. gallus*, although his *S. raninus* is obviously made from a bad figure in Knorr of this same shell. On referring to Mr. Dillwyn's account of *S. gallus*, I find all the references of Gmelin to this shell expunged; and a note at the head of the genus states, that *S. raninus* is undeserving of notice; thus every trace of the shell, in this work, is altogether lost.

The two lobes at the top of the outer lip form a strong and peculiar distinction of this species: the colour of the mouth is variable; though usually tinged with pink, it is often reddish, or red blended with yellow, and sometimes nearly white; within the upper part of the aperture, round the inner lip, are one or two strong plaits, with sulcated grooves on each side; and near the lobe at the base of the outer lip, the aperture has a few obsolete striæ: the nodules on the body whorl are triangular, and the two nearest the lip are, in general, very large: the channel (or base) is short, and turned up in an oblique direction.

Found, in great abundance, in various parts of the West India seas.

Pl. 153.

PSITTACUS Malaccensis,
Blue-rumped Parrot.

GENERIC CHARACTER.—See Pl. 1.

SPECIFIC CHARACTER.

P. viridis; vertice uropygioque nitidè cæruleis; tectricibus interioribus, corporisque lateribus coccineis; caudâ flavescente; rostro magno, dentato.

Green; crown and rump sapphire blue; inner wing covers and sides of the body crimson; tail yellowish; bill large, toothed.

P. Malaccensis. *General Zoology, vol.* 8. 2. *p.* 554.
Blue-rumped Parrakeet. *Lath. Syn. Sup.* 1. *p.* 66.

I THINK this may be the bird described (according to Latham) by Sonnerat, under the name of *Petite perruche de Malacca*, and from which both Latham and Shaw have framed their account of the Blue-rumped Parrot. On comparing their descriptions with the following, some differences and omissions will be found, but not sufficient, I think, to justify the idea of this being a distinct species: I have, as yet, seen only one specimen (and that not perfect) of this rare and little known bird.

Total length six inches; bill unusually large and strong, being three quarters of an inch (in a straight line) long, and nearly the same in height at the base; upper mandible with a sharp tooth in the middle, and reddish orange; under mandible violet grey; front and crown of the head violet blue, changing to blackish green on the back, and greyish green on the sides of the head, neck, and breast; body and vent green; rump and upper tail covers vivid azure blue; spurious wings greenish blue; wing covers dark but bright green, margined more or less with yellowish; quills blue green, their inner webs black; under wing covers and sides of the body crimson; tail short, even, the two middle feathers above green, the rest yellow with green edges and black shafts; beneath, these feathers are all yellow, the shafts white; the wings, for the size of the bird, are very long, measuring four inches and a half.

PSITTACUS Malaccensis,
Blue-rumped Parrot.

Generic Character.—See Pl. 1.

Specific Character.

P. viridis; cerâ nigrâ unipapilosâ nitidâ convexâ; rictibus intervibrissâ, corporibus lateribus cæruleis; caudâ fusco-cærulescente; rostro nigro, basi rubro.

Green; cere and ring surrounding blue; inner wing coverts and sides of the body crimson; tail yellowish; bill large and red.

P. Malaccensis. Cuvier, Règne Animal, ed. 2. i. p. 400.

Blue-rumped Parrakeet. Lath. Syn. Sup. i. p. 66.

PSITTACUS viridissimus,

Green Parrot.

GENERIC CHARACTER.—See Pl. 1.

SPECIFIC CHARACTER.

P. pallidè viridis; pennis infrà nitidè thalassinis; tegminum, remigum, scapulariumque marginibus flavescentibus; lineâ ante-ocularî flavâ; rectricium basi rubrâ.

Pale green, quills beneath changeable sea-green; wing covers, quills and scapulars margined with yellowish; before the eye a yellow line; base of the tail feathers red.

THE uniform green which pervades the plumage of this Parrot, induces me to think it may, possibly, be the female of some other species; a few pale red feathers, close to the axilla, and the faint red on the tail feathers, appear to strengthen this supposition. Among those species which are recorded, this approaches nearest to Latham's Green Parrakeet; but the figure this writer quotes, (*Pl. Enl.* 837.) is at variance both with his description, and with the bird now before us; it may, therefore, be considered as undescribed.

Total length nine inches; bill pale; upper mandible three-quarters of an inch long, the margin undulated. The whole plumage is of a beautiful and delicate green, darkest above; with a tinge of blue on the crown, spurious wings, and greater quills; the orbits are naked, between which and the eye is a blackish line, bordered above by another of pure yellow; all the wing covers and quills are margined with yellowish. The colour of the inferior side of the quills is a pale but beautiful blue green, reflecting brighter tints of the same colour, when held in certain lights; the under side of the tail has likewise these reflections, but above is yellowish, with a dusky red spot at the base of each lateral feather: under the wings there are three or four dull red feathers; feet pale.

This bird is in my own collection, and is the only one I have as yet seen; neither am I acquainted with its native country.

156.

FRINGILLA oryzivora,

Paddy bird, Rice bird, or Java Sparrow.

Generic Character.

Rostrum breve, validum, crassum, rectum, conicum; mandibulæ superioris gibbæ apice vix inflexo, integro; culminis convexi basi angulatâ. Nares basales, rotundæ, pone culminis basin positæ, plumulis vix obtectæ. Pedes sedentes. Alæ breves.

Bill short, strong, thick, straight, conic; upper mandible swelled, the tip slightly inflexed, entire; culmine convex, the base angulated. Nostrils basal, round, placed behind the base of the culmine, and partially covered by the frontal feathers. Feet sitting. Wings short.

Generic Types. *Loxiæ Javensis, Braziliana. Emberiza principalis, cicris. Tanagria cærulea, &c.* (Temminck.)

Specific Character.

F. cana; capite caudâque nigris; rostro rubro; crisso roseo-albente; auribus (in maribus) niveis.

Lead-coloured; head and tail black; bill red; belly obscure rosy; ears (in the male) snowy.

Loxia oryzivora. *Gm.* 1. 302. *Lath. Ind. Orn.* 1. 380. *Gen. Zool.* 9. 2. 316. *Brisson*, 1. 374. 7.

Java Grosbeak. *Lath. Syn.* 3. 129. *Supp.* 151. *Gen. Zool.* 9. 316. *pl.* 51.

This elegant bird has been so distorted, in the representations given of it by the older ornithologists, that little apology is thought necessary for introducing more accurate figures of both sexes in this publication. It is said to inhabit the Cape and various parts of India, causing much damage to the rice plantations, and is frequently brought to this country alive. The figure is of the size of life, the bill bright red, but whitish towards the tip; it is very strong, thickened round the basal margins, and forms a sharp angle between the frontal feathers: the nostrils are small, round, and placed *behind* the thick margin of the bill, and not on its outer surface. Legs flesh-coloured; the orbits are said to be red in the live bird.

I have followed the example of Illiger and Temminck in uniting the greatest part of the Linnæan Loxiæ and Fringillæ under the latter genus, retaining only the Cross-bills under the former.

Pl. 156.

AMPULLARIA effusa,

Ribbon Apple Snail.—*Middle figures.*

GENERIC CHARACTER.—See Pl. 103.

SPECIFIC CHARACTER.

A. testâ globosâ, lævi, fasciis purpureo-fuscis cinctâ; spirâ depressâ, apice prominente; aperturâ angustâ; umbilico magno, profundo; columellâ obsoletâ.

Shell globose, smooth, with purple brown bands; spire depressed, the tip prominent; aperture narrow; umbilicus large, deep; pillar obsolete.

Helix glauca. *Linn. Dillw.* 918. Helix ampullucea, (*var.* γ) *Gmelin*, 3626. Bulimus effusus. *Brug. p.* 296. *No.* 1.

Lister, 129. 29. *Seba, tab.* 38. *f.* 39. *tab.* 40. *f.* 3. 4. 5. (*optimè.*) *Martini*, 9. *tab.* 129. *f.* 1144-5. *Knorr*, 4. *tab.* 5. *f.* 3.

I CONCUR with Mr. Dillwyn in believing that this shell is the *Helix glauca* of Linnæus; but, as it is now removed to another genus, I think no real advantage would result from continuing its original specific name; particularly as the identity may be questioned by others, without a chance of the question ever being settled: the adoption of the specific names given to species slightly or incorrectly described by the older naturalists, inevitably tends to increase the original obscurity, in all cases where the point cannot be cleared up. *A. effusa* may be distinguished from all others by the columella being nearly obsolete; this part existing only in the two terminal whorls of the spire. This species therefore forms a transition to the *Planorbes:* there is a variety, with narrower stripes, double the size of that here figured.

AMPULLARIA luteostoma,

Yellow-mouthed Apple Snail.

A. testâ globosâ, striatâ, olivaceâ, lineis remotis fuscis fasciatâ; spirâ levatâ, apice acuto; aperturâ effusâ intus marginatâ; umbilico magno.

Shell globose, striated, olive, with remote transverse brown lines, spire elevated, the tip acute; aperture wide, within margined; umbilicus large.

THE umbilicus of this shell is not so deep as the last, but is larger than in any other known species; the columella is likewise perfect, and the aperture is wider and more oblique than in *A. effusa*.

PINNA bullata, (*var.*)

Rufous Pinna.

Generic Character.

Testa longitudinalis, cuneiformis, æquivalvis, apice hians, basi acutâ; natibus rectis. Cardo lateralis, edentulus. Ligamentum marginale, lineare, prælongum subinternum.—Lamarck, *Sys.* vol. vi. p. i. p. 129.

Shell longitudinal, wedge-shaped, equivalve, the valves gaping; the umbones straight, pointed. Hinge lateral, without teeth. Ligament marginal, linear, very long, subinternal.

Generic Types. *Pinnæ rudis. Pectinata. Muricata.* Linn. Pennant, &c.

Specific Character.

P. testâ tenui, pellucidâ, rufâ, æquilaterâ, striis remotis, sulcatis, transversim squamiferis, subspinosis; marginibus lateralibus rectis; margine inferiore obliquè truncato.

Shell thin, pellucid, rufous, equilateral, with remote sulcated striæ, crossed by transverse scales and obtuse spines; lateral margins straight; inferior margin obliquely truncate.

P. bullata. *Gmelin, p.* 3367. *Gualt. tab.* 79. *f.* c. *Chemnitz.* 8. *tab.* 87. *f.* 769. *Knorr*, 2. 23. *f.* 1.

P. marginata. *Lam. Sys.* 6. *p.* 132. 7.

I HAVE little doubt that this shell is a smooth variety of the *Pinna bullata* of Gmelin, and the *P. marginata* of Lamarck; both these authors refer to the same figure in Gualtieri, but both also have overlooked that of Chemnitz, above quoted, as well as Knorr's, which latter, although it represents the shell nearly smooth (similar to that here figured), I apprehend is only a variety. No doubt therefore having existed as to Gmelin's *bullata*, M. Lamarck had no plea for altering its specific name to *marginata*. I have consequently recorded it under Gmelin's name.

The Pinnæ are rather numerous, although many of the species remain in obscurity; they attach themselves to rocks, deep in the sea, by a silky *byssus*. It has been commonly stated, that gloves and stockings are fabricated in the Mediterranean from this byssus, as articles of commerce; such, however, is not now the case; though articles, so fabricated, are sometimes shown in Naples and Sicily as subjects of curiosity.

Pinna bullata is, I believe, found in the West Indies. The vaulted spires on this and other species, easily fall off; and become, therefore, a very uncertain specific character.

SATYRUS argenteus.

Generic Character.

Antennæ mediocres, clavo elongato, gracili. Palpi porrecti, compressi, vix recurvi, remoti, pilis ciliatis, longis, hirsutissimi; articulo ultimo elongato, nudo, gracili, acuto. Alæ posticæ orbiculares, integræ, rarò dentatæ.

Antennæ moderate, the club lengthened and slender. Palpi porrected, compressed, slightly recurved, remote, with long ciliated hairs; the last joints long, naked, slender, acute. Posterior wings orbicular, entire, rarely dentated.

Generic Types. *Pap. Hyperanthus, Galathea, Semele, &c.* Lin.

Specific Character.

S. alis fuscis; posticarum disco suprà flavescente, maculis 2 fuscis fucato, infrà albente, margine postico fulvo, maculis 2 atris guttisque 7-8 argenteis ornato.

Wings brown; posterior above with a yellowish disk and two brown spots, beneath whitish, the hind margin fulvous, with two black spots and 7-8 silver dots.

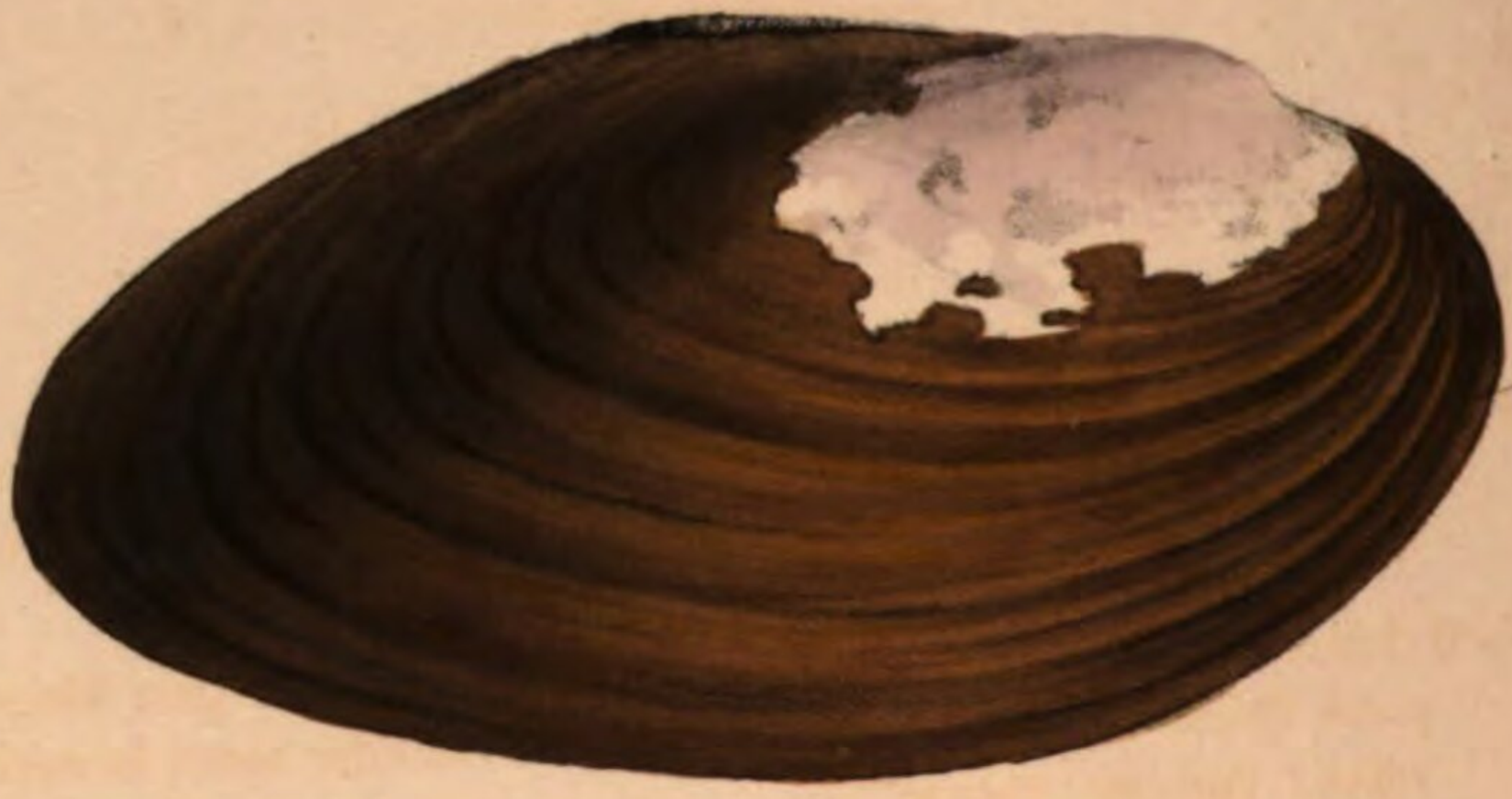
Without being ornamented by rich or vivid colouring, this is, nevertheless, one of the most chastely beautiful little butterflies found in Brazil. I met with it very plentifully in a small wood not far distant from Cashoera, on the western extremity of St. Salvador's bay: to this particular spot it seemed confined, for I never saw a single specimen in any other part of Brazil.

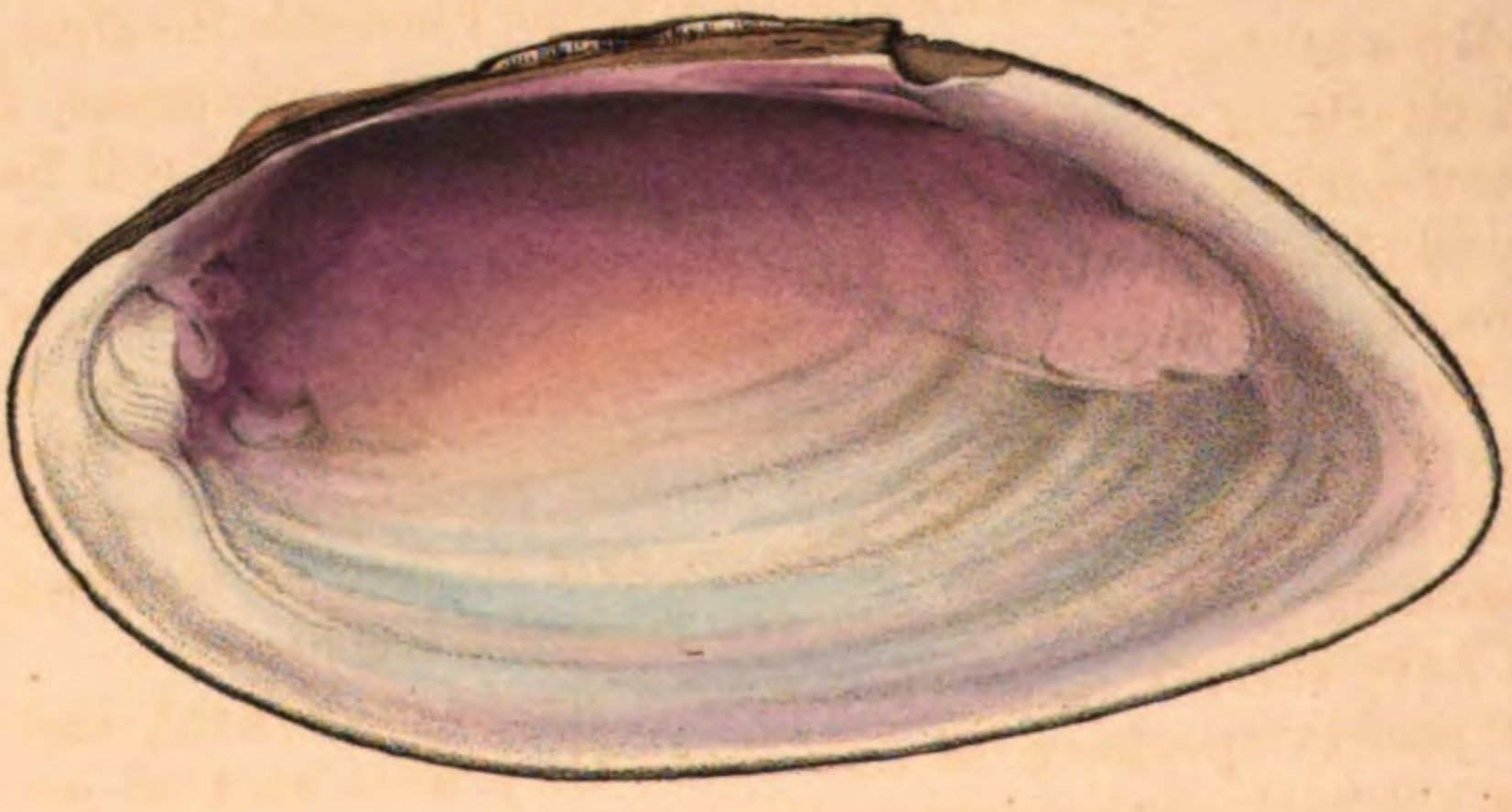
No colouring can imitate the richness of the silvery spots on the under wings, which appear embossed, or as if solid drops of silver had fallen on the insect when it first emerged into life. The two sexes are perfectly similar.

The insects of this genus are usually brown, with dark or paler shadings, and eye-like spots on their upper or under wings. They principally inhabit the woods of tropical regions, and the hedge sides and lanes of European countries; this circumstance probably induced Latreille to change their name from *Hipparchia* (Fabricius) to *Satyrus;* which, although an innovation on the rules of nomenclature, may in this instance be allowed.

Pl. 159.

SATYRUS argentina.





ANODON purpurascens,

Purple Anodon, or Horse Mussel.

GENERIC CHARACTER. — See Pl. 96.

SPECIFIC CHARACTER.

A. testâ transversim oblongâ, crassâ, depressâ, intus purpurascente, laminâ cardinali crassâ, truncatâ, dente lamellari in utrâque valvâ supposito; umbonibus retusis.

Shell transversely oblong, thick, depressed, within purple; hinge plate thick, truncate, with an obsolete lamellar tooth in each valve; umbones retuse.

THIS is an entirely new and very rare shell, remarkable for its shape and internal colour; it is also highly interesting, as exhibiting the generic characters of *Anodon*, blended (in some degree) with those of *Unio:* according to the principles of Lamarck, it might therefore be made into a genus; but I feel convinced too much importance has already been attached by that naturalist and his followers to the hinge of bivalve shells; and that the nomenclature of the science is burthened with genera, trivial in themselves, bewildering to the scientific, and unintelligible to the student.

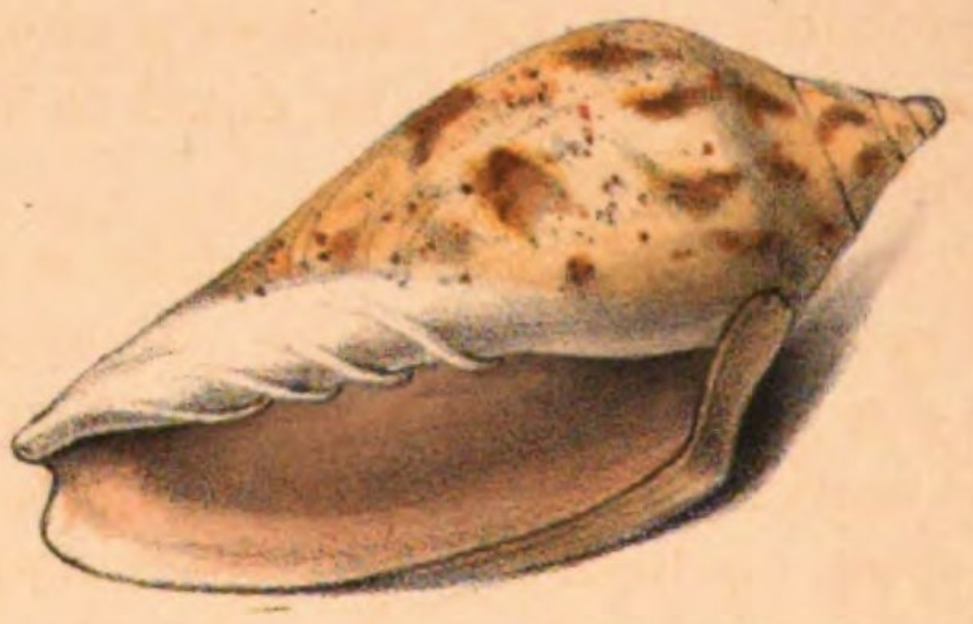
From having paid some attention to the Fluviatile Bivalves, and possessing a most extensive collection of specimens, I am clearly of opinion that no permanent characters will be found sufficient to retain either the genera *Dipsas* (Leach), *Hyria* (Lamarck), or *Alasmodonta* of Say, much less that of *Damaris* (Leach), and another, whose name I forget, made by Dr. Turton from the same shell as Leach's *Damaris*, viz. Mya Margaritifera of Linnæus. In fact, the line of demarcation between Unio and Anodon appears to rest on the first possessing cardinal teeth, and the latter having none.

I have several valves (in different stages of growth), and one perfect specimen of this shell; they were sent to me from the back settlements of North America.

Pl. 160.

ANODON purpurascens.

Purple Anodon, or Horse Mussel.



VOLUTA punctata,

Red-dotted Volute.

Generic Character.

Testa ovata. Spira aperturâ brevior, apice papillari. Basis truncata, emarginata. Columella plicata, plicis inferioribus majoribus.

Shell ovate. Spire shorter than the aperture, the tip papillary. Base truncated, emarginate. Pillar plaited, the inferior plaits generally largest.

Generic Types. *Volutæ Olla, Imperialis, Pacifica, &c.*

Specific Character.

V. testâ ovatâ, subfusiformi, tuberculatâ, pallidè rubellâ, fasciis 2 maculatis, rubris, punctis minutis interstinctis; columellâ 4 plicatâ.

Shell ovate, subfusiform, tuberculated, flesh-coloured, with two bands of red spots interspersed with minute dots; pillar 4 plaited.

In "Exotic Conchology," I have commenced, and intend to complete, a copious illustration of this noble family of shells; which (if the simile be admissible) may be termed the nobles of testaceous animals, with as much truth as Linnæus has called Palms the princes of the vegetable world. The Volutes, indeed, are imposing shells; both from their size, rarity, and their rich (but not gaudy) colouring; and it is not improbable that the value of a choice collection of the principal species, would be equal to their own weight in solid gold.

The species now under consideration is only known from an injured specimen in Mr. Dubois' cabinet; although much rubbed on one side, it presents on the other a true pattern of its original markings; the margin of the outer lip, and the tip of the spire, are both injured; yet, notwithstanding these defects, there are abundant characters remaining to evince its total dissimilarity from any other recorded species.

I have preferred subjoining only the essential generic characters of this genus, as most intelligible to students; particularly as its natural characters are fully detailed in the first part of "Exotic Conchology."

ACHATINA fasciata, (*var.*)

Banded Achatina, (3 *varieties.*)

GENERIC CHARACTER. — See Pl. 30.

SPECIFIC CHARACTER. — See Pl. 74.

(Young.) *Aperturâ basi integrâ.* Base of the aperture entire.

Ach. pallida. *Zool. Ill. vol.* 1. *pl.* 41.

SINCE the first illustration of this elegant species appeared, at plate 74 of this work, I have had the means of ascertaining a very extraordinary circumstance which takes place in the progressive growth of the young shell to the adult state; and that is the change effected in the form and termination of the pillar or columella. In the noble collection of shells formed by the late Earl of Tankerville, there is a numerous series of this species; from these I have ascertained, that in the young shells the base of the columella unites with the termination of the outer lip, making the aperture entire, similar to the lengthened Helices; but, as the shell advances in growth, the base of the columella becomes thick, detached, as it were, from the marginal rim, so as to produce an intervening notch, and thus gives the old and the young shell not only an appearance of being distinct species, but of belonging to separate genera. From these facts, I have drawn the conclusion, that *Achatina pallida* (pl. 41), is but the young shell (having the margin of the aperture as yet entire) of *Achatina fasciata;* and the three additional varieties now figured, will, I hope, prove an interesting addition to the history of this species.

Pl. 162.

HEMIPODIUS nivosus,

White-spotted Turnix.

Generic Character.

***Rostrum** mediocre, gracile, rectum, valdè compressum culmine levato, ad apicem sub-incurvo. Nares laterales, lineares, sulcatæ, membranâ convexâ corneâ vix tectæ, aperturâ fissâ, elongatâ. Pedes longi, digitis tribus anticis divisis. Halluce caret. Cauda brevissima tectricibus obtecta. Alæ mediocres.*

Bill moderate, slender, straight, much compressed, culmen elevated, towards the tip slightly incurved. Nostrils lateral, linear, sulcated, partially covered by a convex horny membrane, the aperture narrow and elongated; legs long, with three toes before, divided at their base. Hind toe none. Tail very short, concealed by the covers. Wings moderate.

Generic Type. *Perdix nigricollis*. Lath.

Specific Character.

H. supra ferrugineo varius; mento albescente; jugulo pectoreque pallidè ferrugineis, maculis albis, nitidis, ornatis; corpore albo; uropygio caudæque tectricibus superioribus rufis, immaculatis.

Above varied with ferruginous; chin whitish; throat and breast pale ferruginous, with white shining spots; body white; rump and upper tail-covers rufous, unspotted.

H. nivosus. *Swainson, in Tilloch's Phil. Magazine, vol.* 60. *p.* 353.

I have represented this delicate little bird of its natural size; which is so small, as scarcely to equal that of a Lark. The Turnix inhabits the sandy deserts of Africa and India, and seems to form a race of pigmy Bustards, all the species yet discovered (fourteen in number) being very diminutive. Little is known of their habits in a state of nature, further than that they migrate, and fly with great rapidity. The specific character will distinguish *H. nivosus* as a species; and I have already given a more detailed description of it in the Journal above quoted. Mr. Leadbeater received it from Senegal.

Pl. 163.

SYLVIA annulosa,

White-eyed Warbler.

GENERIC CHARACTER.—See Pl. 139.

SPECIFIC CHARACTER.

S. olivaceo-viridis, infrà albescens; jugulo flavescente; palpebris plumis niveis insignibus.

Olive-green, beneath whitish; throat yellowish; eyes encircled by a ring of snowy feathers.

Sylvia Madagascariensis. *Lath. Ind. Orn.* 2. 533. *Gm.* 1. 981.

White-eyed Warbler. *Lath. Gen. Syn.* 4. 475. *Gen. Zool.* 10. 2. 720.

Ficedula Madagascariensis minor. *Briss. Ois.* 4. *p.* 498. *t.* 28. *f.* 2. (*male.*) *Briss. Orn.* 1. 446.

A DELICATE ring of snow-white feathers encircles the eyes of this pretty bird. It is far from being peculiar to Madagascar (as Dr. Latham's name of *Madagascariensis* would seem to imply), but is spread over a wide extent of the eastern hemisphere; being found both in the Isle of France, the Cape of Good Hope, and Madras. The name, therefore, is peculiarly inapplicable; but this is not all: for we find that the same author, a few pages after, has given this identical name to another very different bird; the same error is transferred into Shaw's Zoology.

Figure, the size of life: colour above, olive green; ears and sides of the head the same: chin, throat, and under tail covers yellow; breast cinereous, changing to dusky brown on the flanks; the middle of the body whitish; between the eye and bill a velvet-black line, which forms a partial margin to the snowy feathers of the eyelids; wings and tail dusky black, margined with olive.

Very indifferent figures of both sexes will be found in Vaillant's African birds; from his description it seems to be a gregarious species. I regret not being able, at this moment, to refer to the work.

SYLVIA annulosa.

White-eyed Warbler.

GENERIC CHARACTER.—See Pl. 139.

SPECIFIC CHARACTER.

S. olivaceo-viridis, infrâ albescens; jugulo flavescente; poliopleura plumis nitris insignibus.

Olive-green, beneath whitish; throat yellowish; eyes encircled by a ring of snowy feathers.

Sylvia Madagascariensis. Lath. Ind. Orn. 2. 533. Gm. 1. 981.

White-eyed Warbler. Lath. Gen. Syn. 4. 475. Gen. Zool. 10. 2. 720.

Ficedula Madagascariensis minor. Brisс. Ois. 4. p. 498. t. 28. f. 2. (male.) Briss. Orn. 1. 446.

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Very indifferent figures of both sexes will be found in Vieillot's African birds: from his description it seems to be a gregarious species. I regret not being able, at this moment, to refer to the work.

SYLVIA annulosa, (*var. β.*)

White-eyed Warbler.—(*New Holland variety.*)

GENERIC CHARACTER.—See Pl. 139.

SPECIFIC CHARACTER.

S. suprà cinerea, infrà albescens, capite, alis uropygioque olivaceo-flavis; jugulo flavescente; palpebris plumis niveis insignibus.

Above cinereous, beneath whitish; head, wings, and rump, olive yellow; throat yellowish; eyes encircled by a ring of snowy feathers.

ON first receiving this bird from New Holland, I was inclined to think it a distinct species from the African White-eyed Warbler; but further consideration has led me to adopt a different opinion: it is true that I am unacquainted with any one land bird which is common to both countries, and much weight should be attached to the geographic distribution both of families and species. These two birds, however, differ in their colour, and somewhat in their size. On the other hand, the White-eyed Warbler, as before observed, is found both in Africa and India; and is, therefore, probably migratory. Nature, moreover, is not bound by laws to which there are no exceptions; and the leading points of resemblance between these birds are very strong. On the whole, therefore, I am inclined to consider them as varieties of one species, forming a solitary exception to the general dissimilarity between the birds of Africa and those of New Holland.

Size of the Wood Wren: the head and ears are olive yellow, changing to brighter yellow on the chin, and part of the throat; the neck and back cinereous, graduating to yellowish olive on the rump and upper tail covers; wings the same, the inside of the quills blackish; sides of the throat cinereous; body and under tail covers whitish; the sides tinged with ferruginous; the stripe between the bill and eye is more brown than black; and the white feathers round the eye, not so conspicuous as in the African variety.

1

3.

2

4

BULIMUS citrinus, (*var.*)

Citron Bulimus, (3 *varieties.*)

GENERIC CHARACTER.—See Pl. 4.

SPECIFIC CHARACTER.—See Pl. 46.

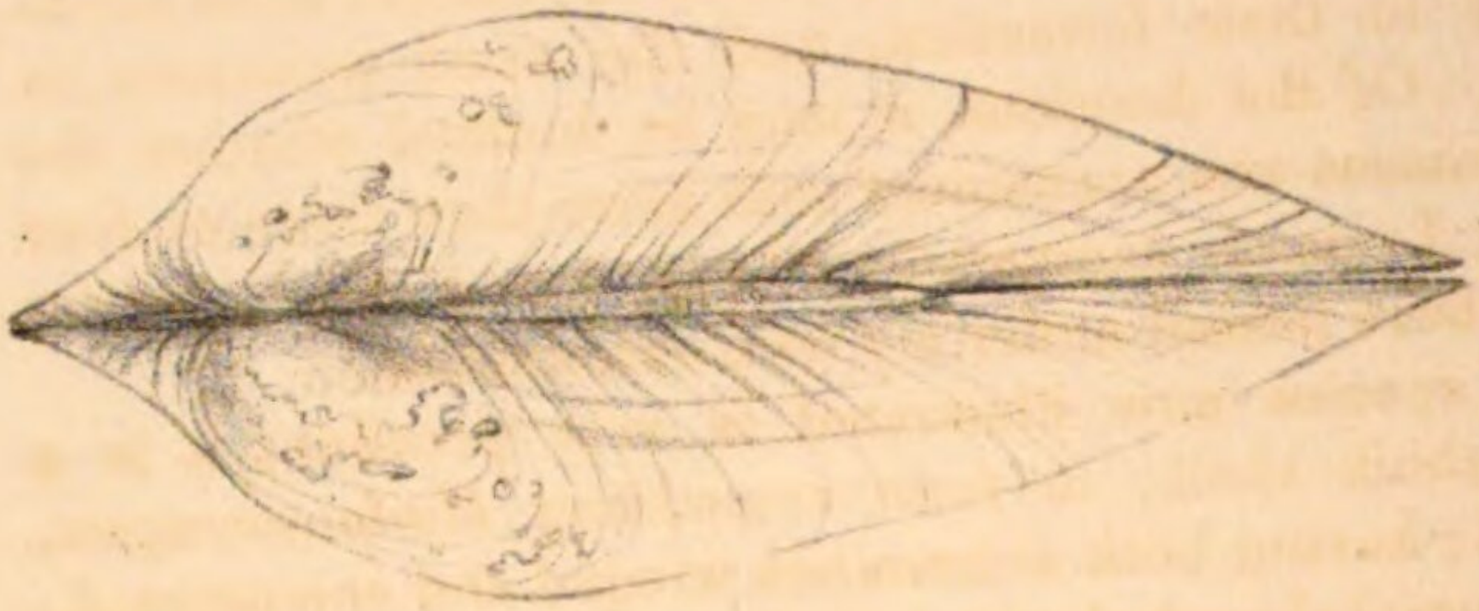
VARIETIES.

A. Yellow, with black lines. *Zool. Ill. pl.* 46.
B. Yellow, with black lines and chesnut stripes. *Zool. Ill. p.* 47.
C. Yellow, variegated with green; inner lip obsolete. *Fig.* 1.
B. virescens. Sw. Bligh Cat. p. 13.
D. Green, striped with yellow; inner lip white. *Fig.* 2. 3.
E. Orange, with flame-coloured waved stripes. *Fig.* 4.
F. Pale yellow, with brown waved stripes.

THE beautiful shells here selected as a further illustration of the Citron Bulimus not only show the great variability of the species, but clearly prove that *B. virescens* is, as I suspected, only a variety of *B. citrinus*. In the shell at fig. 1. the upper part of the inner lip (like that described in the Bligh Appendix), is entirely wanting; although it bears, in every other respect, the appearance of a full-grown shell; the umbilicus likewise is open; but in the shell at fig. 2. and 3. the inner lip is quite perfect, and consequently folds over the umbilicus; thus the connexion between the green and yellow varieties is completely established.

I have subjoined a slight arrangement of the principal varieties; and have only further to observe, that the specific character I first proposed, appears to me the only one by which this species may be truly distinguished.

Since the description of *B. aureus* at pl. 47 was written, I have seen several other specimens; all of which tend to confirm my belief that it is distinct from *B. citrinus*.



ANODON crassus,

Thick Anodon, or Horse Mussel.

GENERIC CHARACTER. — See Pl. 96.

SPECIFIC CHARACTER.

A. testâ ovatâ, latâ, crassa; margine cardinali subarcuato, extremitate utrâque angulatâ alatâ; umbonibus prominentibus, apicibus retusis.

Shell oval, broad, thick; hinge margin subarcuated, the extremities winged and angulated; umbones prominent, the tips retuse.

IT is only recently that travellers have directed their attention to the less attractive shells of distant regions; and our cabinets now begin to be enriched by the numerous land and fresh-water species of those countries. Among these new acquisitions, the fresh-water bivalves appear the most extraordinary in their formation, and the most numerous in species. Of the Anodons, it may be doubted whether the great Linnæus was acquainted with more than three or four species; Lamarck enumerates fifteen, but a much greater number have passed under my own examination.

The species now illustrated is very peculiar; it is a strong, thick shell; in form resembling *Hyria corrugata*, Lamarck; having both extremities winged and compressed; the umbonial slope* elevated, and somewhat angulated; the umbones thick and prominent, but obtuse, or nearly truncate, at their apex; the outside of the shell of a dark grass-green colour, and nearly smooth, excepting at the posterior side, which is marked by sulcated striæ following the lines of growth; the inside is opaque and whitish, with rich iridescent margins: the muscular impressions deep, and the hinge margin quite smooth.

I know of no other specimen than one in Mr. Dubois' collection, and am altogether unacquainted with its locality; although its *habit* leads me to think it is from South America.

* I have applied this term to the oblique descent made by the umbo, towards the basal extremity of the anterior side of bivalves.

ANODON CRASSUS,

Thick Anodon, or Horse Mussel.

GENERIC CHARACTER.—See Pl. 98.

SPECIFIC CHARACTER.

A. testâ ovatâ, latâ, crassâ; margine cardinali subrecto, extremitate ante arcuque angulatâ obtusâ; umbonibus prominentibus, elevatis, rotundis.

Shell oval, broad, thick; hinge margin subincurved, the extremities winged and angulated; umbones prominent, the tips rotund.

IT is only recently that travellers have directed their attention to the less attractive shells of distant regions; and our cabinets now begin to be enriched by the numerous land and fresh-water species of those countries. Among these new acquisitions, the fresh-water bivalves appear the most extraordinary in their formation, and the most numerous in species. Of the Anodons, it may be doubted whether the great Linnæus was acquainted with more than three or four species; Lamarck enumerates fifteen, but a much greater number have passed under my own examination.

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I know of no other specimen than one in Mr. Dubois' collection, and am altogether unacquainted with its locality; although its habit leads me to think it is from South America.

* I have applied this term to the oblique descent of the dorsal extremity towards the basal extremity of the anterior side of bivalves.

RAMPHASTOS ambiguus,

Doubtful Toucan.

GENERIC CHARACTER. — See Pl. 45.

SPECIFIC CHARACTER.

R. niger; jugulo flavo; mandibulæ superioris parte superiore flavâ, transversè maculatâ, strigâ viridi obliquè divisâ; mandibulâ inferiore nigrâ.

Black; throat yellow, upper mandible black, the upper half yellow, with an oblique green stripe and transverse spots; the under mandible black.

THE obscurity with which modern ornithologists have described these remarkable birds, would have induced me, long ago, to have attempted a more perfect account of all the species in this work; but as this might have been considered, by some, an infringement on the miscellaneous plan on which it was commenced, I feel obliged to confine myself only to their occasional illustration.

The species now selected is one I have never seen; but I have no doubt of its existence, and little of the accuracy of its delineation. I before alluded to several drawings of Toucans which had come to my hands, executed by an unknown artist: among them is a figure of that now published; with a note subjoined, stating it was drawn "from the bird just dead." The other drawings of the same artist represent several of the common species, and their accuracy is presumptive evidence that this also is represented correctly. The singular colouring of the bill at once separates it from all known species; and for its further history, we must trust to the exertions of those travellers, visiting South America, who may feel an interest in illustrating these singular birds.

I more than once heard, when in Brazil, of a *Blue Toucan;* but it was said to be very rare, and I never was fortunate enough to meet with one.

PTEROGLOSSUS viridis,

Green Aracari, (*male.*)

GENERIC CHARACTER.—See Pl. 44.

SPECIFIC CHARACTER.

P. nigro virescens; capite juguloque nigris, fœminæ castaneis; corpore flavo; rostro serrato, tomiis albis, mandibulâ superiore aurantiacâ, lineâ longitudinali, laterali, mediâ, nigrâ, mandibulâ inferiore cæruleâ.

Blackish green; head and neck black (in the female chesnut), body yellow; bill toothed, the margins white, upper mandible orange, with a black longitudinal line; lower mandible blue.

Ramphastos viridis. *Linn. Gmelin*, 1. *p.* 353. *Lath. Ind. Orn.* 1. 138. *Gen. Zool.* 8. 2. *p.* 370.

Green Toucan. *Lath. Syn.* 1. 331.

Tucana Cayanensis viridis. *Briss. Ois.* 4. 423. *pl.* 33. *f.* 1. *Id. Orn.* 2. 162. *Pl. Enl.* 727. *mas.* 728. *fœm.*

THIS is a common bird, known to the older ornithologists; but here introduced, for the purpose of representing the vivid colours which ornament the bill of the live bird: the figures likewise above referred to are so very loosely drawn, that a more correct representation of the species appeared desirable. A remarkable character pervades all the Aracaris, (with the exception of *P. sulcatus*, pl. 44,) the head and throat being black in the male, and chesnut or grey in the female birds; the bills also of the latter are always the smallest; that of the Green Aracari is larger, thicker, and more curved than in any other species; the serratures strong and unequal; the top, and upper half of the superior mandible, pure yellow; the lower half orange; these colours being divided by a slender isolated black line; the under mandible blue, with the base rosy; its general plumage bears a resemblance to several other species. Dr. Latham says the orbits are yellow; this, however, is a mistake, for both the orbits and irides are grass-green; this writer likewise refers to Edwards, pl. 329, for this bird; which plate, in fact, represents a Toucan, and is that bird which I have described and figured under the name of *R. carinatus*, pl. 45.

I believe this species is confined to the northern parts of South America. Mr. Charles Edmonston brought home fine specimens from Demerara; they were preserved with so much skill, that the colours of the bill almost retained their primitive brightness; Le Vaillant, I believe, has figured this bird; but I have not, at this time, access to his valuable book.

MALURUS Africanus,

African Soft-tail.

GENERIC CHARACTER.—See Pl. 170.

SPECIFIC CHARACTER.

M. suprà rufescens, strigis nigris varius; genis mentoque albentibus, strigâ nigrâ intermediâ; rectricibus attenuatis, nigris, rufo marginatis.

Above rufous brown with black stripes; sides of the head and chin whitish, divided by a black stripe; tail feathers attenuated, black, the margins rufous.

Motacilla Africana. *Gmelin*, 1. *p.* 958.

Sylvia Africana. *Lath. Ind. Orn.* 2. *p.* 518. *Gen. Zool.* 10. 2. *p.* 615.

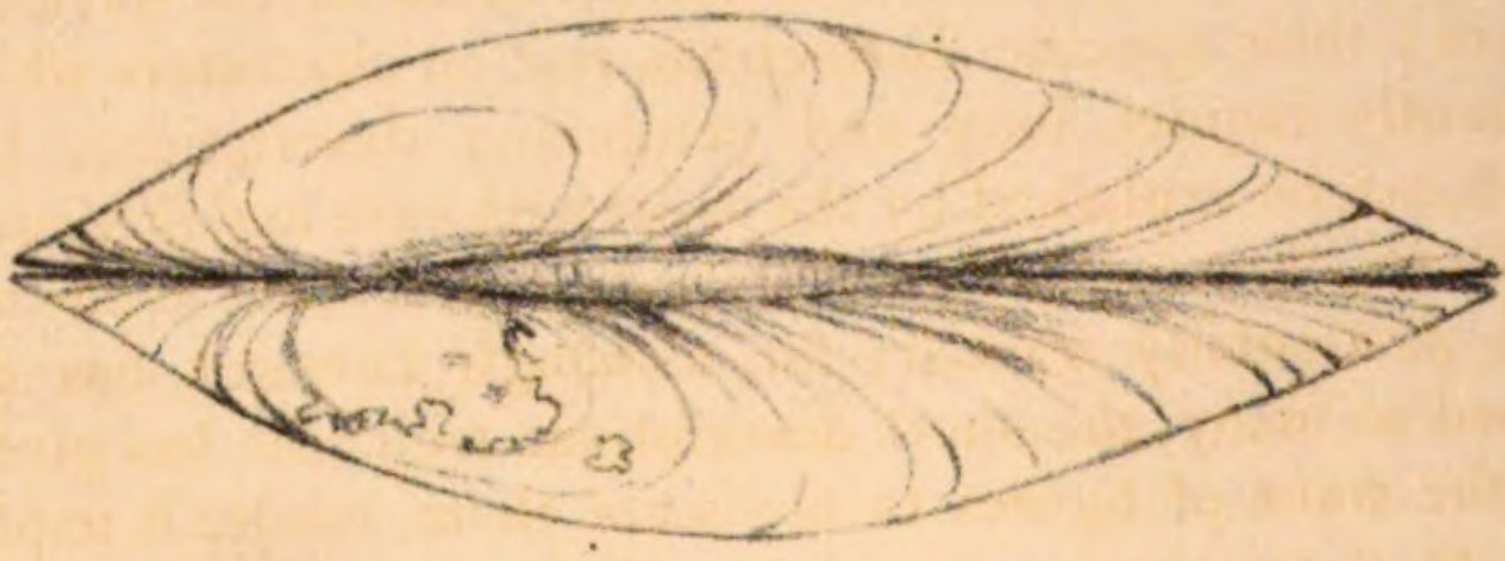
African Warbler. *Lath. Syn.* 4. *p.* 436.

Curruca nævia. *C. B. Spei. Brisson. Ois.* 3. *p.* 390. *tab.* 22. *f.* 2. *Orn.* 1. *p.* 419.

Le Fluteur. *Vaill. Ois. d'Afrique.*

THE characters of *Malurus*, together with a few observations on the birds composing it, I have already given at plate 170 of this work. Yet as the species are scattered in several distinct genera of the Linnæan school, I have here represented that which may be termed the type of the genus, as instituted by Professor Temminck, and as modified by myself. On comparing the characters of *Timalia* (a new genus of Dr. Horsfield's) with those of *Malurus*, they will be found to designate one and the same group of birds. Indeed, the minute and interesting details, which Dr. Horsfield has given, put the question almost beyond doubt, and lead me to conclude, that the Doctor was not aware, at the time, that his genus was already recorded.

This bird is not uncommon at the Cape of Good Hope. The notes of the male (according to M. Le Vaillant) are soft and agreeable, much resembling those of a flute; the shortness of the wings renders its flight very low. The figure is of the natural size; and the bird has been so well described by Brisson and Latham, that it is needless to repeat what they have said; the figures both of Le Vaillant and Brisson are by no means accurate. The tail feathers are delicate and transparent; and those of the whole body very soft, with detached webs or *radii*, similar to Dr. Horsfield's *Timalia pileata*, and *gularis*.



171.

UNIO fragilis.

Fragile River Mussel.

GENERIC CHARACTER.—See Pl. 58.

SPECIFIC CHARACTER.

U. testâ transversim ovatâ, tenui, intùs purpurascente; dentibus cardinalibus tuberculatis, sub-obsoletis.

Shell transversely oval, thin, within purple; cardinal teeth tuberculated, nearly obsolete.

MOST fresh water bivalves are remarkably destitute of that variety of colouring, which diversifies the exterior of marine shells, and renders their distinction comparatively easy. A uniform olive green, or brown tint, pervades all the fluviatile genera; their specific distinctions rest on characters which frequently require long and perplexing descriptions, but which can be explained by the artist with ease and precision. It follows, therefore, that accurate figures of these shells are more particularly wanted; for, although Lamarck has described so many, the short descriptions which he has given, and the want of figures to elucidate them, render it impossible to determine accurately one half of the species which he has enumerated.

Unio fragilis is principally distinguished by the cardinal teeth: those in the right valves are 2; short, obtuse, and nearly obsolete, more resembling tubercles, than the crenated or striated teeth of this genus. The left valve has one tooth rather sharper. In young shells the ligamental margin is nearly straight, and its extremity somewhat angulated; but old shells lose these appearances, and become perfectly oval. In both stages of growth the shell is very thin, convex, and the inside (near the umbones) purple. The slight development of the cardinal teeth brings this shell nearer to the genus *Anodon*, than any other *Unio* which I have seen.

It inhabits the rivers of North America, and was sent to me by Professor Rafinesque.

UNIO fragilis.

Fragile River Mussel.

AMPULLARIA reflexa,

Purple Apple Snail.

GENERIC CHARACTER.—See Pl. 103.

SPECIFIC CHARACTER.

A. testâ ovato-globosâ, lævi; spirâ ventricosâ, obtusâ, sub epidermide purpureâ; aperturâ nigro-purpurascente; labio exteriore tenui, margine reflexo.

Shell ovate-globose, smooth; spire ventricose, obtuse; beneath the epidermis, purple; aperture blackish purple; outer lip thin, the margin reflected.

Knorr, vol. 5. pl. 5. f. 2. (uncoated.)

Ampullaria reflexa. *Swainson, in Tilloch's Ph. Mag. vol.* 61. *p.* 377.

THE only record that I can find (in the works of the old writers) for this Ampullaria, is the figure by Knorr above quoted; it is obviously drawn from an uncoated specimen, although I have seen instances, where the blackish purple on the spire was so intense, as to obscure the thin epidermis which covered it. The peculiar character of the species, and in which it differs from all others, is in the outer margin of the lip; which is thin, rather spread out, and slightly reflected; the form of the shell resembles *A. fasciata*, but the spire, instead of being pointed, is obtuse; the umbilicus, likewise, is smaller and more concealed. From the absence of a groove round the aperture, I conclude the operculum is horny.

The size varies; perfect shells are in my possession much smaller than the figure, and I have seen others much larger, and with the aperture more chesnut than purple.

I am not acquainted with its locality.

Pl. 172.

AMPULLARIA urceus.

Purple Apple-Snail.

GALLINULA ruficollis, *var.*
Black-bellied Gallinule, *var.*

Generic Character.

Gallinula. Briss. Cuv. Tem. Lath. *Fulica*, *Rallus.* Linn. *Crex.* Illiger.

Rostrum capite brevius, valdè compressum, conicum, rectum, apice compresso, mandibulâ inferiore angulatâ. Nares sulcatæ, membranâ obtectæ; aperturâ magnâ, oblongâ, perviâ, vix mediâ. Pedes elongati, grallarii, genibus nudis, digitis gracilibus tribus, halluce mediocri.

Bill shorter than the head, much compressed, conic, straight, the tips compressed, inferior mandible angulated. Nostrils sulcated, covered by a membrane; aperture large, oblong, pervious, nearly medial. Feet long, wading, knees naked, fore toes three, long, slender, hind toe (or thumb) short.

Generic type. *Rallus porzana.* Linn.

Specific Character.

Gall. ruficollis var. A? *Olivaceo-fusca; cervice cinereâ; pectore, abdomine, alisque rufis; crisso, uropygio, caudâque nigris; tectricibus interioribus rufis, nigro-fasciatis; pedibus rubris.*

Olive brown; neck cinereous; breast, body, and wings rufous; belly, rump, and tail black; interior wing covers rufous, banded with black; legs red.

Fulica ruficollis. *Gmelin*, 1. *p.* 700. *Turton*, 1. *p.* 423.
Gallinula ruficollis. *Lath. Ind. Orn.* 2. 767.
Black-bellied Gallinule. *Lath. Syn.* 1. *p.* 253.

This is one of the largest water hens found in Brazil, where it is very rare. I am indebted to Dr. Langsdorff for the only specimen which I brought from that country. It differs considerably from the Black-bellied Gallinule of Latham, yet, perhaps, not sufficiently to record it as a distinct species.

Total length fifteen inches and a half; bill one and a half; the base (in the dead bird) orange, the other half green; frontlet none; the crown and nape are grey brown, the sides cinereous, and the throat whitish; the neck both above and beneath for about two thirds its length is lead-coloured; it then changes to rufous, which spreads over the breast, body, wing covers, and greater quills; the lower part of the neck above, with the back, scapulars, and lesser quills, brownish olive; the belly, thighs, tail, and rump black; the inner wing covers are remotely barred with black; legs (in the live bird) red.

Latham describes the Black-bellied G. as seventeen inches long; the bill two inches; the quills greenish brown, with rufous margins; the fore part of the neck and breast bright rufous; and the flanks with black bands.

Pl. 173.

TANAGRA canicapilla,

Grey-crowned Tanager.

Generic Character.

Rostrum breve, validum, conicum, basi trigonâ, lateribus compressis, culmine levato, mandibulâ superiore ad apicem deflexâ et emarginatâ, inferioris brevioris rectæ basi crassâ, ambarum marginibus inflexis. Nares parvæ, basi plumosâ, aperturâ rotundatâ, nudâ. Alæ mediocres.

Bill short, strong, conic, base trigonal, sides compressed, culmin elevated, upper mandible towards the tip deflexed and notched, under mandible shorter and straight, the base thick, the margins of both inflexed. Nostrils small, the base feathered, the aperture round, naked. Wings moderate.

Generic Types. *Tanagra Jacapa, tricolor. Motacilla velia.* Lin. *Pipra musica.* Lin.

Specific Character.

T. olivaceo-viridis, infrà flava; vertice cinereo, strigâ oculari auribusque nigris; rostro gracili.

Olive green, beneath yellow; crown cinereous, eye stripe and ears black; bill slender.

The Tanagers are a numerous, and, in general, a beautiful tribe, including some of the most richly coloured birds of America; to which continent modern ornithologists consider they are exclusively confined.

M. Temminck proposes to unite with the Tanagers, several birds scattered in the Linnæan Genera of *Lanius*, *Loxia*, *Fringilla*, *Pipra*, and *Motacilla*. This view of the subject, it may not be superfluous to add, is in perfect unison with my own. In fact, I had meditated a similar arrangement; but the appearance of M. Temminck's work rendered the publication of my own remarks no longer necessary. The bird here figured belongs to that division which forms a transition to the *Sylviæ*, from which they are readily distinguished by the thickened base of the under mandible. It is not uncommon in the West Indies; but I cannot find it described either among the Tanagers, Finches, or Warblers of the Linnæan school: in this, however, I may possibly be mistaken. It is represented the size of life, and is sufficiently distinguished by its specific character.

Pl. 174.

TANAGRA cæsiapilla,
Grey-crowned Tanager.

Bastard brown, reddish, cinereous, dusky tinged, lateralis conspersis, rubris lituris, mandibuli superiori ad apicem dilatati et compressi, inferioris brevioris recta basi crassa, ambarum margine inflexo. Nares parvæ, basi plumosæ, apertura rotundata, nudæ. Alæ mediocres.

Tibiæ nudæ, elatæ, cauda, basi trigonali, aliis conspersa, culmine elongato, supra mandibulæ towards the tip deflexed and notched, under mandible shorter and straight, the base thick, the margins of both inflexed. Nostrils small, the base feathered, the aperture round, naked. Wings moderate.

Genera Types. Tanagra, Lanio, tricolor, Thraupis cana, Lin. Pipra musica, Lin.

T. cinereo-virida, capite dorsoque cæsiis, tectrice caudæ superioribus fuscis; rectrice gyrali.

Olive green, beneath yellow; crown cinereous, eye stripe and ears black; bill slender.

The Tanagers are a numerous, and, in general, a beautiful tribe, including some of the most richly coloured birds of America; to which continent modern ornithologists consider they are exclusively confined.

Several birds scattered in the Linnean Genera of Lanius, Loxia, Fringilla, Pipra, and Motacilla. This view of the subject, it may not be superfluous to add, is in perfect union with my own. In fact, I had meditated a similar arrangement; but the appearance of M. Temminck's work rendered the publication of my own remarks no longer necessary. The bird here figured belongs to that division which forms a transition to the Sylviæ, from which they are readily distinguished by the thickened base of the under mandible. It is not uncommon in the West Indies; but I cannot find it described either among the Tanagers, Finches, or Warblers of the Linnean school: in this, however, I may possibly be mistaken. It is represented the size of life, and is sufficiently distinguished by its specific character.

PL. 174.

175

AMPULLARIA leucostoma,

White-mouthed Apple Snail.

GENERIC CHARACTER.—See Pl. 98.

SPECIFIC CHARACTER.

A testâ ovatâ, rugosâ, epidermide olivaceo-fuscâ; labio exteriore tenui; aperturâ albâ; umbilico vix clauso.

Shell oval, wrinkled; epidermis olive-brown; outer lip thin; aperture white; umbilicus nearly closed.

IN prosecuting my illustrations of this genus, I have carefully examined all the specimens in the cabinets of my friends, and have added many to my own. These materials have thrown some additional light on those species which I have already described, and have enabled me to detect several others altogether new. Among the latter is the shell here figured, and which is so rare, that I know but one example of it in this country. Its form is more oval than that of *A. rugosa*, from which it is likewise distinguished by a very small umbilicus, nearly concealed by the inner lip; the wrinkles are numerous and unequal, the spire pointed, and the aperture milk-white.

Since my remarks on the *Planorbis cornu-arietis* of Lamarck were published, it has been discovered that the shell is furnished with an operculum: one of these is in the possession of Mr. Sowerby: thus what was a matter of doubt becomes a fact, and affords the only substantial argument for terming it an *Ampullaria*. On the other hand, its affinities to *Planorbis* (marked by its discoid, depressed form, and the total absence of the pillar,) remain in no degree impaired. The weight of argument on both sides *now* appears to be so equal, that it is a matter of no moment whether this shell be placed in the system at the end of the *Ampullariæ*, or at the commencement of the *Planorbes*. To the generality of conchologists, the latter collocation would appear the most simple; but, on the whole, I incline more to the propriety of considering it the terminal species of the *Ampullariæ*, or that which marks their transition (as I before observed) to the *Planorbes*.

ANODON elongatus,

Lengthened Anodon.

GENERIC CHARACTER. — See Pl. 96.

SPECIFIC CHARACTER.

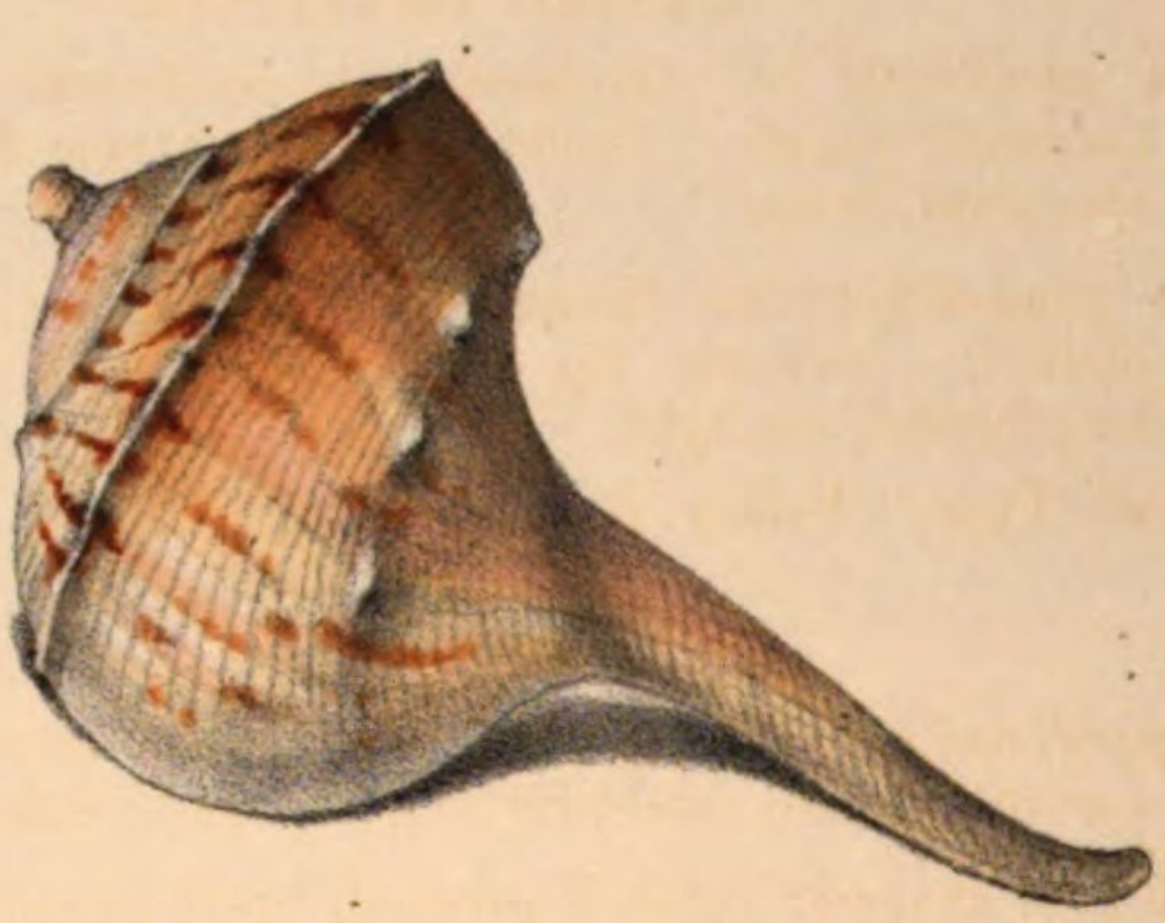
A. testâ transversim oblongâ, crassâ, anticè compressâ, extremitate utrâque rotundatâ; umbonibus valdè prominentibus, crassis; laminâ cardinali convexâ.

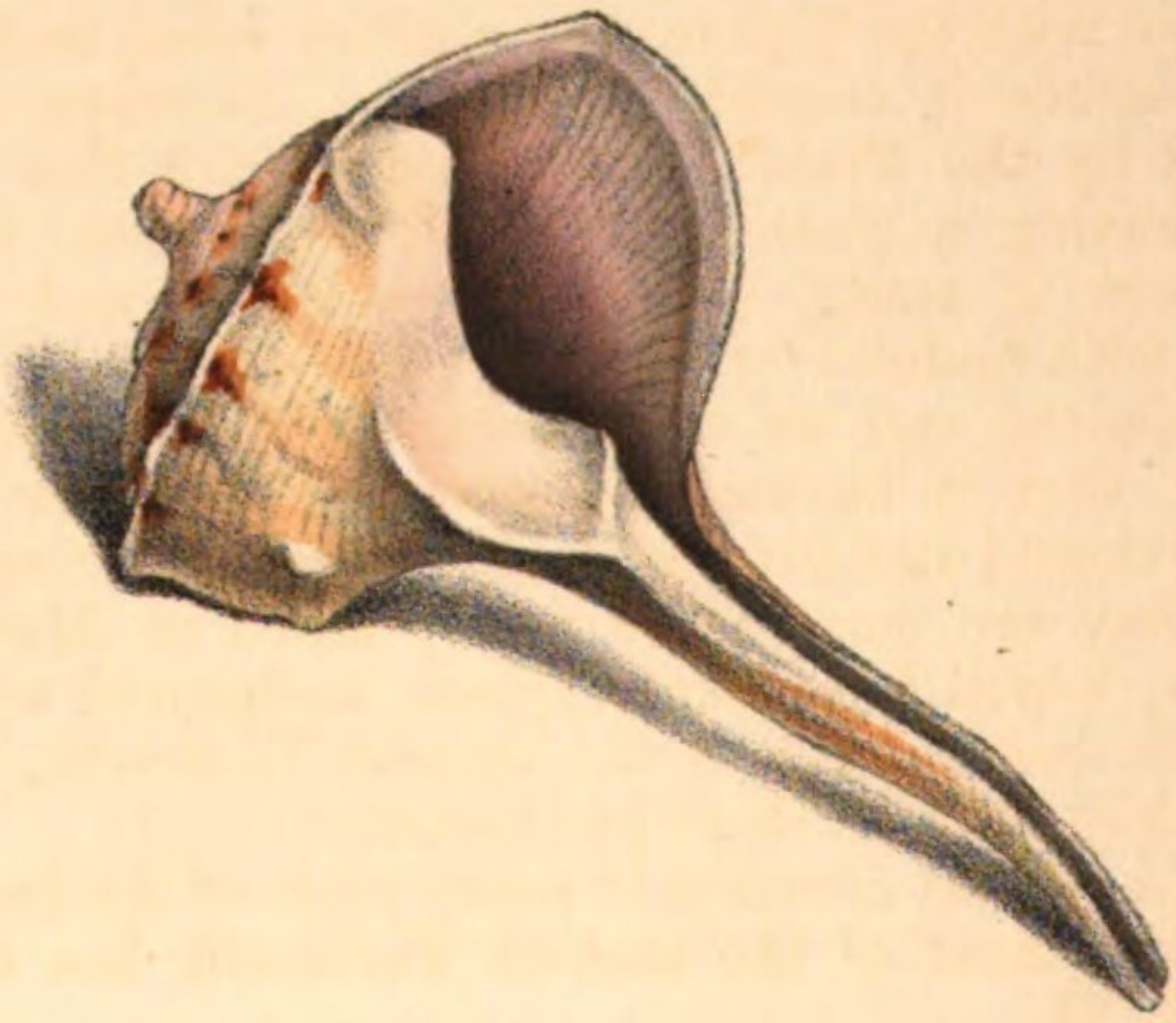
Shell transversely oblong, thick, anteriorly compressed, both extremities rounded; umbones very prominent, thick; hinge-plate convex.

THIS extremely rare shell bears not the least resemblance to any which Lamarck has described, or with which I am acquainted. It was formerly in the late Mr. Forster's collection, and is now in the possession of Mrs. Mawe. Its form is like that of *Unio ovatus* (*Mya ovata* of Montague), but it is a much thicker and stronger shell; the posterior end is greatly compressed, but round; the umbones convex, remarkably thick, and deeply eroded; the inside pearly and iridescent, with a strong flesh-coloured tinge; the ligamental or hinge-plate is perfectly smooth, and rather convex; the muscular impressions are deep.

One valve of the specimen above alluded to (the only one I have seen), is uncoated, and beautifully iridescent. Its country is unknown — but I think it may prove a native of the South American rivers.

Pl. 176.





TURBINELLUS spirillus,
Carinated Turnip Shell.

Generic Character.

Testa pyriformis vel fusiformis, sub-ponderosa. Apex papillosus. Columella plicata. Labium interius margine dilatatum. Canalis elongatus, rectus.

Shell pear-shaped or fusiform, heavy. Apex papillary. Pillar plaited. Interior lip with the margin dilated. Canal lengthened, straight.

Generic Type. *Voluta Pyrum*. Lin.

Specific Character.

T. pyriformi; spirâ depressâ, apice prominente; anfractu basali carinato; labio interiore dilatato, albo; columellæ basi plicatâ.

Shell pear-shaped; spire depressed, apex prominent; basal whorl carinated, interior lip dilated, white; base of the pillar one-plaited.

Murex spirillus. *Gmelin*, 3544. *Dillwyn*, 721.
Martini, 3. *tab.* 115. *f.* 1069. *Knorr*, 6. *tab.* 24. *f.* 3.

In assigning a situation, under the modern system, to the *Murex spirillus* of Linnæus, no genus appears to me more adapted for its reception than that of *Turbinellus*. These shells were formerly blended with the Linnæan Volutes, but are now detached from them as a distinct genus. The most striking peculiarity consists in the prolongation of the base into a long and straight canal; they possess, in common with the Volutes, a papillary spire, and, in general, their surface is smooth. There are, however, other shells classed by the French conchologists with this genus, from their having a plaited columella; in these, the apex of the spire is acute, the base truncated, and the outside rough with nodules or obtuse spines; characters so greatly at variance, and so very distinct from those first mentioned, that it becomes questionable whether these latter shells should not rather be classed as a distinct group: in fact, they are much more nearly allied to *Mitra* and *Cancellaria*, which have acute spires, sculptured volutions, and truncate bases, than to the smooth *Turbinelli*, which differ so strikingly in all these particulars.

This shell is common to many parts of the Indian Ocean; and, like most of the smooth *Turbinelli*, has the inner lip dilated.

TURBINELLUS spirillus,
Carinated Turnip Shell.

Generic Character.

Shell pear-shaped or fusiform, ventricose, deep papillose.
Columella plicate. Labium thin. Margins dilated. Canals
elongated, recurved.

(Generic Type. Voluta Pyrum, Lin.)

Specific Character.

T. pyriformis, carinatus, albus; spira elongata; anfractu basali carinato, labio tri-dilatato, albo; columella bene plicata.

Shell pear-shaped; spire elongated, apex pyramidal; basal whorl carinated, labrum tri-dilated, white; base of the pillar columellated.

Murex spirillus. Gmelin, 3516. Dillwyn, 721.
Martini, 3. tab. 115. f. 1093. Knorr, 6. tab. 24. f. 3.

In assigning a situation, under the modern system, to the Murex spirillus of Linnæus, no genus appears to me more adapted for its reception than that of Turbinella. These shells were formerly blended with the Linnæan Volutes, but are now detached from them as a distinct genus. The most striking peculiarity consists in the prolongation of the base into a long and straight canal; they possess, in common with the Volutes, a papillary spire, and, in general, their surface is smooth. There are, however, other shells closely allied by the French conchyliologists with these genera, from having a plaited columella; in these, the apex of the spire is acute, the base truncated, and the outside rough with nodules or obtuse spines; characters so greatly at variance, and so very distinct from those first mentioned, that it becomes questionable whether these latter shells should not rather be ranked as a distinct group: in fact, they are much more nearly allied to Murex and Cancellaria, which have acute spires, sculptured volutions, and truncate bases, than to the smooth Turbinella, which differ so strikingly in all those particulars.

This shell is common to many parts of the Indian Ocean; and, like most of the smooth Turbinellæ, has the inner lip

BUCEROS coronatus,

Coronated Hornbill.

Generic Character.

Rostrum elongatum, crassum, inane, deflexum, marginibus obtusè crenatis, epithemate inani, formâ vario, in mandibulam superiorem imposito. Nares basales, ovatæ, (lingua brevis, angusta, acuta. Illiger.) *Pedes gressorii.*

Bill elongated, thick, hollow, deflexed, the margins obtusely crenated, with excrescences of various forms placed on the upper mandible. Nostrils basal, oval. Tongue short, narrow, pointed. Feet gressorial.

Generic Types. *B. Rhinoceros, bicornis.* Linn.

Specific Character.

B. niger, abdomine, striâ utrinque occipitali, apiceque rectricium albis; rostro subcristato, (carinato,) rubro. Shaw.

Black Hornbill, with the abdomen, stripe on each side of the nape, and tip of the tail white. Bill slightly crested, (carinated,) and red.

Le Calao Couronné mâle. *Le Vaill. Ois. d'Af. vol. v. p.* 117. *pl.* 234.

Buceros coronatus, Coronated Hornbill. *Shaw in Gen. Zool.* 8. p. 35.

The bills of these birds present a more uncouth appearance than even those of the Toucans; many species having knobs or excrescences which seem to grow out of the bill itself, and give a strange appearance to the bird. The whole tribe are natives only of the tropical parts of Africa and Asia; feeding on animal substances, either living or dead.

Le Vaillant discovered this bird in Caffraria; congregating in flocks of near 500, along with crows and vultures, over the remains of slaughtered elephants. It frequents forests, perching on high, and generally withered trees; it likewise destroys insects.

The specimen now before me is about the size of a magpie; the white collar only surrounds the back of the head, and is not well defined; the carinated process on the bill ends *abruptly*, and not *gradually*, as seen in Le Vaillant's figure; the margins are obtusely crenated, the tail even, and the two middle feathers entirely black.

BUCEROS coronatus,

Coronated Hornbill.

MUSCIPETA labrosa,

Red-lipped Flycatcher.

GENERIC CHARACTER.—See Pl. 116.

SPECIFIC CHARACTER.

M. nitidè nigra; rictu labroso, rubro; cruribus infra genua plumatis.

Glossy black; gape margined by a red skin; legs feathered beyond the knees.

THIS bird, though unattractive in its colours, is nevertheless very remarkable. It may be almost said to have *lips;* for round the gape, at each angle of the mouth, is a narrow loose skin; perfectly naked, and rather projecting. This singularity is increased by its colour in the live bird; which, by a note attached to the specimen, is stated to be of a beautiful red. It seems a species hitherto unknown, and was found near the Great Fish River of Southern Africa.

The figure is rather less than the natural size; the whole plumage deep black; glossed with bluish green in every part but the quill and tail feathers; the quills inside are grey, margined with olive; the first of these is very short, the second and third shorter than the fourth, and the two next are nearly of equal length. The tail has ten feathers, and is even, except the two outer pair, which are progressively shorter. The bill rather thick and strong, the culmine not very apparent, the upper mandible strongly notched, the under but slightly; the nostrils are hid by thickset incumbent feathers, mixed with hairs; these cover the aperture, which is rather large, round, and encircled by a narrow membrane. The legs are very short, the three fore-toes united as far as the first joint, the hind-toe short; the claws of all are small, and the sole of the foot perfectly flat, like the Bee-eaters. I have been minute in noting these characters, because, although the bird will stand at present in the great family of the Flycatchers, there is no doubt they will hereafter be divided into distinct groups.

MUSCIPETA labiosa,

Red-lipped Flycatcher.

GENERIC CHARACTER.—See Pl. 116.

SPECIFIC CHARACTER.

M. supra nigra; subtus alba; remiges tæniâ albâ notatæ; rectrices tribus extimis albis, duabus intermediis nigris; rostro pedibusque rubris; loris barbatis.

This bird, though undistinguished in its colours, is nevertheless very remarkable. It has, especially round to base of the lips; for round the gape, at each angle of the mouth, is a narrow loose skin; partially naked, and rather projecting. This singularity is increased by the colour in the live bird; which, by a note attached to the specimen, is stated to be of a beautiful red. It seems a species hitherto unknown, and was found near the Great Fish River of Southern Africa.

The figure is rather less than the natural size; the whole plumage deep black; glossed with bluish green in every part but the quill and tail feathers; the quill inside are grey, margined with olive; the first of these is very short, the second and third shorter than the fourth and the two next are nearly of equal length. The tail, as in flycatchers, and is even, except the two outer pair, which are progressively shorter. The bill rather thick and strong, the culmine not very upright, the upper mandible strongly notched, the under but slightly; the nostrils are hid by the short erect feathers, mixed with hairs; these cover the membrane, which is rather large, round, and encircled by a naked membrane. The legs are very short, the three toes joined as far as the first joint, the hind-toe short; the claws of all are small, and the sole of the foot perfectly flat, like the Bee-eaters. I have been minute in noting these characters, because, although the bird will stand at present in the great family of the Flycatchers, there is no doubt they will hereafter be divided into distinct groups.

P. 119.

TURDUS vociferans,

Calling Thrush.

Specific Character.

T. cinereus, infrà ferrugineus; temporibus auribusque nigris; caudæ rotundatæ pennis mediis nigris, lateribus ferrugineis.

Cinereous, beneath ferruginous; ears and sides of the head black; tail rounded, middle feathers black, lateral feathers ferruginous.

Le Réclammeur. *Le Vaill. Ois. d'Af. tom.* 3. *p.* 33, *pl.* 104.

I can find no account of this bird in any writer besides Le Vaillant, who discovered it during his travels in Southern Africa. He says the note of the male bird is loud and melodious, and is heard in the morning and evening from the highest branches of lofty trees; the sexes being usually seen together. Le Vaillant relates an amusing anecdote, which well illustrates the peculiar note of the male:—One of his Dutch Hottentots, by name Piet, having shot a female, its mate continued to fly around him, uttering its cry, which so much resembled the Dutch words of *Piet myn vrow*, (or, '*Peter*—my wife,') that the poor lad (perfectly astonished) took to his heels, and vowed never more to handle a gun.

Length seven inches and a half; the upper plumage is dark cinereous: on each side the head is a stripe of black, which encircles the eye, and forms a patch on the ears: the whole of the under plumage is clear ferruginous yellow or bright buff colour; the rump and lateral tail feathers the same, the middle pair being entirely black; the next pair has likewise a narrow margin of the same colour: quills and wing-covers dusky brown, with pale cinereous margins. Tail rounded: legs pale: irides hazel: bill rather small and black, compressed the whole length, and having weak bristles at its base.

This bird obviously belongs to the Thrushes; but as I have not yet defined the extent of the genus to my own satisfaction, I refrain at present from proposing its characters.

Pl. 180.

TURDUS [illegible],

Collins' Thrush.

SPECIFIC CHARACTER.

[illegible] ferruginous; [illegible] and sides of the head black; [illegible] middle feathers black, lateral feathers ferruginous.

La Vaillant, Ois. d'Af. tom. 3. p. 33, pl. 104.

I can find no account of this bird in any writer besides La Vaillant, who discovered it during his travels in Southern Africa. He says the note of the male bird is loud and melodious, and is heard in the morning and evening from the highest branches of lofty trees; the sexes being usually seen together. La Vaillant relates an inviting anecdote, which well illustrates the peculiar mode of life of this, of the Dutch Hottentots, by name Hec, hiding when a female, his mate continued to lay around him, uttering the cry, which so much resembled the Dutch words of Pie my wife (or, Pee—my wife,) that the poor lad (perfectly satisfied) took to his heels, and vowed never more to hurdle a Hec.

Length seven inches and a half; the upper plumage is dark cinereous: on each side the head is a stripe of black, which encircles the eye, and forms a patch on the ear: the whole of the under plumage is clear ferruginous yellow or bright buff colour; the rump and lateral tail feathers the same, the middle pair being entirely black; the next pair has likewise a narrow margin of the same colour: quills and wing-coverts dusky brown, with pale cinereous margins. Tail rounded: legs pale: irides hazel: bill rather small and black, compressed the whole length, and having weak bristles at its base.

This bird obviously belongs to the Thrushes; but as I have not yet defined the extent of the genus to my own satisfaction, I refrain at present from proposing its character.

P. 120.

VOLUTA Pusio,

Dwarf Volute.

GENERIC CHARACTER.—See Pl. 161.

SPECIFIC CHARACTER.

V. testâ ovato-obtusâ, flavescente, fasciis pallidis, maculis fulvis interstinctis cinctâ; anfractu basali obtusè nodoso; spirâ brevissimâ, acutâ; columellâ incrassatâ, multiplicatâ.

Shell ovate-obtuse, yellowish, with pale bands and fulvous spots; body whorl crowned by compressed obtuse nodules; spire very short, acute; pillar thickened with many plaits.

Voluta Pusio. *Swainson, in Tilloch's Ph. Journal, vol.* 61. *p.* 378.

LAMARCK's recent account of this genus, in the last volume of his *Animaux,* contains but two species in addition to those long ago described by him in the *Annales du Mus.;* thus omitting many of those new Volutes which of late years have been discovered. On the other hand, this naturalist has created five species from the varieties of *V. musica* Lin. resting their characters on colour, bands, and the number of the lesser or spurious plaits on the pillar. It requires no argument to prove that these principles of distinction are the most uncertain he could have chosen; scarcely two specimens of *V. musica* being found alike. These supposed species must, therefore, again merge into one.

The shell before us has more important characters; the body whorl is quite smooth, but crowned by compressed truncated nodules; the spire remarkably short, and the tip acute; in other respects it approaches to *V. virescens* Sol. (*Polyzonalis* Lam.) and to *V. fulva* Lam. I have neither of these shells at present before me; but if Lamarck's description of them, and the figures which he has cited, be correct, I have no doubt they are but one species; *V. polyzonalis* being the *smooth,* and *V. fulva* being the *nodulous* variety of Solander's *V. virescens.* In fact, Lamarck says both shells are transversely striated.

V. pusio is a shell of the greatest rarity, and is described from a specimen in the collection of my friend Mr. Broderip. Its form is perfect, but its colours are somewhat faded.

Pl. 181.

Dusky Volute.

Bayerische
Staatsbibliothek
München

CYPRŒA spadicea,
Chesnut Cowry.

GENERIC CHARACTER.—See Pl. 111.

SPECIFIC CHARACTER.

C. testâ ovatâ, oblongâ, immaculatâ; dorso rufo; ventre albo; lateribus lividis.

Shell ovate-oblong, unspotted; the back reddish chesnut; belly white; sides livid.

C. spadicea. *Swainson, in Tilloch's Ph. Mag. vol.* 61. *p.* 376.

IN shape and general aspect this shell somewhat resembles *C. onyx;* but its colours are so peculiar, that it cannot be mistaken for that or any other known species: the under side (or belly) is convex and pure white; the sulcations between the teeth of the aperture wide, short, and but faintly marked; the sides livid, tinged with flesh colour. Three specimens have fallen under my observation; one of which, being young, showed the internal colour of the back to be dull purple; they were all received by Mrs. Mawe from the South Seas.

CYPRŒA sanguinolenta,
(*Middle figures.*)

C. testâ ovato-oblongâ, dorso punctis fuscis, nebulosis, obsito; lateribus incarnato-violaceis, lividè guttatis; ventre depresso.

Shell ovate-oblong, the back clouded, and dotted with brown; sides flesh-coloured violet, with dark livid spots; belly depressed.

C. testâ ovato-oblongâ, cinereo-cærulescente, fulvo vel fusco fasciatâ, lateribus incarnato-violaceis, sanguineo-punctatis. Lam. Syst. 7. *p.* 396.

C. sanguinolenta. *Gmelin,* 3406. *Turton,* 4. *p.* 335. *Dill.* 445. *Martini,* 1. *t.* 26. *f.* 265, 266. *Ency. Meth. pl.* 356. *f.* 12.

C. purpurascens. *Sw. in Tilloch's Ph. Mag.* 61. *p.* 376.

GMELIN and LAMARCK have both described the lateral spots on this shell as blood-red. Their descriptions in other respects are loose, and the figures by Martini so bad, that it is with some doubt I have here placed my *purpurascens* as a variety of Gmelin's *sanguinolenta.* The back of the shell is minutely freckled with brown; the under part (or belly) is flattened; the spots on the sides dark livid purple, and the base of the aperture effuse. It is, I believe, a native of Southern Africa.

ADDENDA ET CORRIGENDA.

In the Systematic Index, Conchology, Part I. for "*Acephalis*" read "*Acéphales.*"
Pl. 92. page 1. line 13, for "*caudi,*" read "*caudis.*"
23, for "*Dentatis*" read "*Dentati.*"
— 3. — 11 from the bottom, for "*Lepidopteræ*" read "*Lepidoptera.*"
— 102. Add to the Synonyms, *A. virginea. Lamarck. Syst. tom. 6. part 2. p. 131. Sowerby's Genera. Achatina, f. 2.*
— 124. last line, for "female" read "male;" and in the line above, for "male" read "female."
— 125. for "*P. Nireus*" read "*P. Nerius.*"
— 126. Add to the Syn. *Lam. Syst. 7. p. 467. 55*; and for *Ency. Meth. pl. 326. f. 204.*, read *pl. 326. fig. 2 and 4.*
— 127. Add to the Syn. *Lam. Syst. 7. p. 465. 50.*
— 134. *Strombus exustus*, described by Lamarck (*Syst. 7. p. 211*) under the name of *S. Papilio.* The first of these names, however, has the right of priority. (See *Mus. Cal.* 1797.) The figures of Martini, tom. 3. tab. 8. f. 825, 826, clearly represent this species; although Lamarck has quoted them for *S. lentiginosus.*
Strombus lentiginosus. Add to the Synonyms, *Lam. Syst. 7. p. 203. Knorr, 3. tab. 13, f. 2.* Lamarck has omitted to quote any of the figures representing the young shells of this and the following species.
— 135. St. tricornis. Add to the Syn. *Lam. Syst. 7. p. 201.*
— 139. *Sylvia plumbea.* This bird greatly resembles the female of *S. pusilla* of Wilson (yellow-backed Warbler, Latham), yet differs in having the belly golden yellow instead of white: I was told, moreover, that this was a male bird: the one inhabits North, and the other South America. Latham's description of his yellow-backed Warbler, I should think, is not quite accurate; as he only alludes to *one* white bar on the wing covers, whereas both Wilson and Vieillot say there are two.
— 145. Eburna tessellata. Add to the Syn. *E. Arcolata, Lam. Syst. 7. p. 282. 4.*
— 146. Eburna Pacifica. Add to the Syn. *E. lutosa? Lam. Syst. 7. 282. 5.*
— 150. The upper figure is of *Sphinx Leachii*, and the under of *S. fasciata.*
— 152. Add to the Syn. *Helix regina. Ferussac Moll. liv. 19. pl. 119.*
— 153. Ditto *S. bituberculatus. Lam. Syst. 7. p. 202. 6.*
— 157. Amp. Effusa. Ditto, *Lam. Syst. 6. 2. p 178. 5.*
— 164. Add to the Syn. *Le Figuier Tcheric, Le Vaill. Ois. d'Af. 3. pl. 132.*
— 166. Ditto *Lam. Syst. 6. 2. p. 178. 5.*
— 170. Ditto *Le Vaill. Ois. d'Af. 3. pl. 112. f. 2.*
— 177. Ditto *Pyrula Spirillus. Lam. Syst. 7. p. 142.*

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Daniel Knodé

BSB Bayerische StaatsBibliothek
MDZ Münchener DigitalisierungsZentrum Digitale Bibliothek

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Zoological illustrations, or original figures and descriptions of new, rare or interesting animals selected chiefly from the classes of Ornithology, Entomology and Conchology and arranged on the principles of Cuvier and other modern zoologists
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